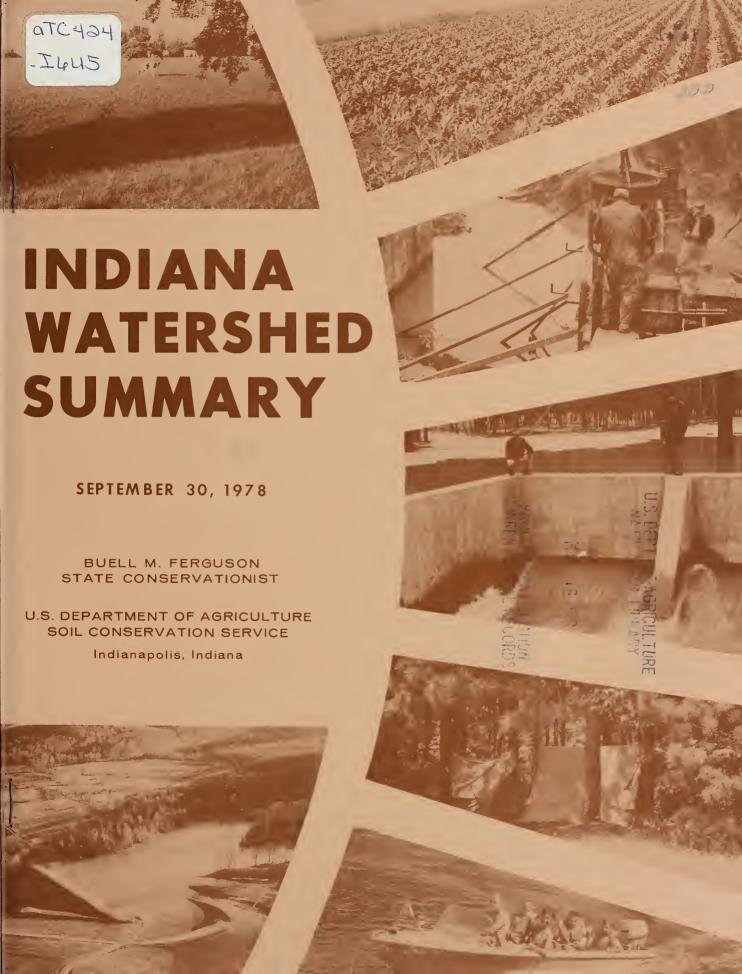
Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.





STATUS OF WATERSHEDS

Potential Projects		205
Applications Received		119
Plans in Process of Development		1
Plans Awaiting Authorization		1
Plans Authorized for Construction Construction Underway	[7]	18
Preconstruction (Design, Land Easements and Rights-of-Way Temporarily Halted	[3] [6]	
Structural Measures Completed - Land Treatment Measures Continuing	[2]	
Applications to be Serviced		19
Deauthorized for Funding		6
Inactive/Terminated		62
PL-566 Projects Completed		11
Pilot Program Completed		1

FOREWORD

This summary has been prepared to reflect the current status of Indiana small watershed projects and applications under Public Law 83-566, as amended. It gives brief facts on a statewide basis and specific details about each watershed for which an application has been received. Projections for Fiscal Year 1979 (October 1, 1978-September 30, 1979) are also shown.

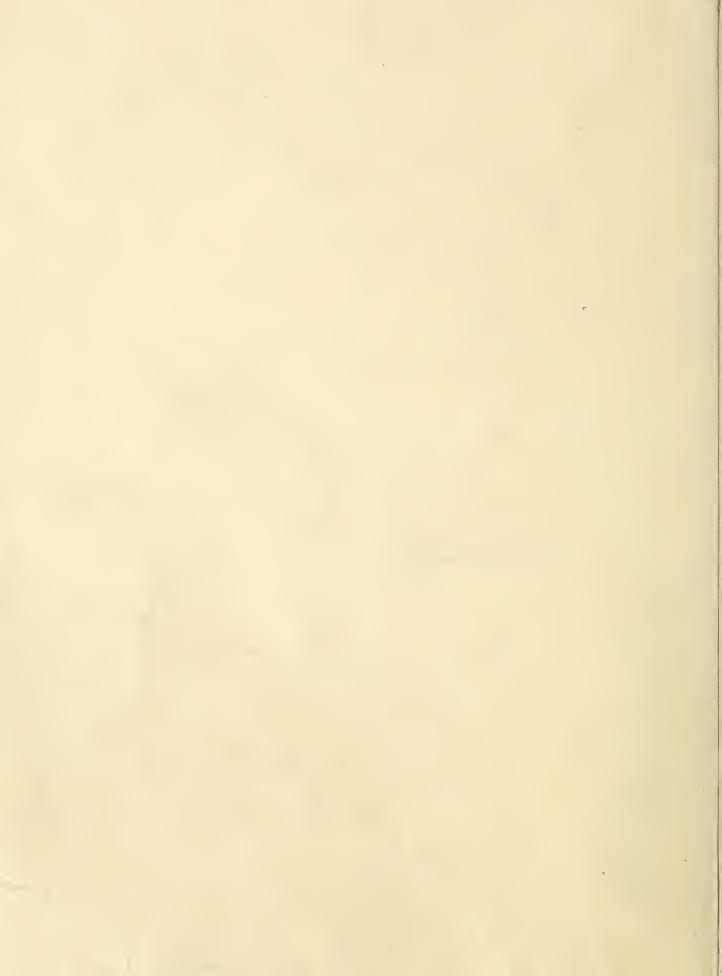
Buell M. Ferguson State Conservationist

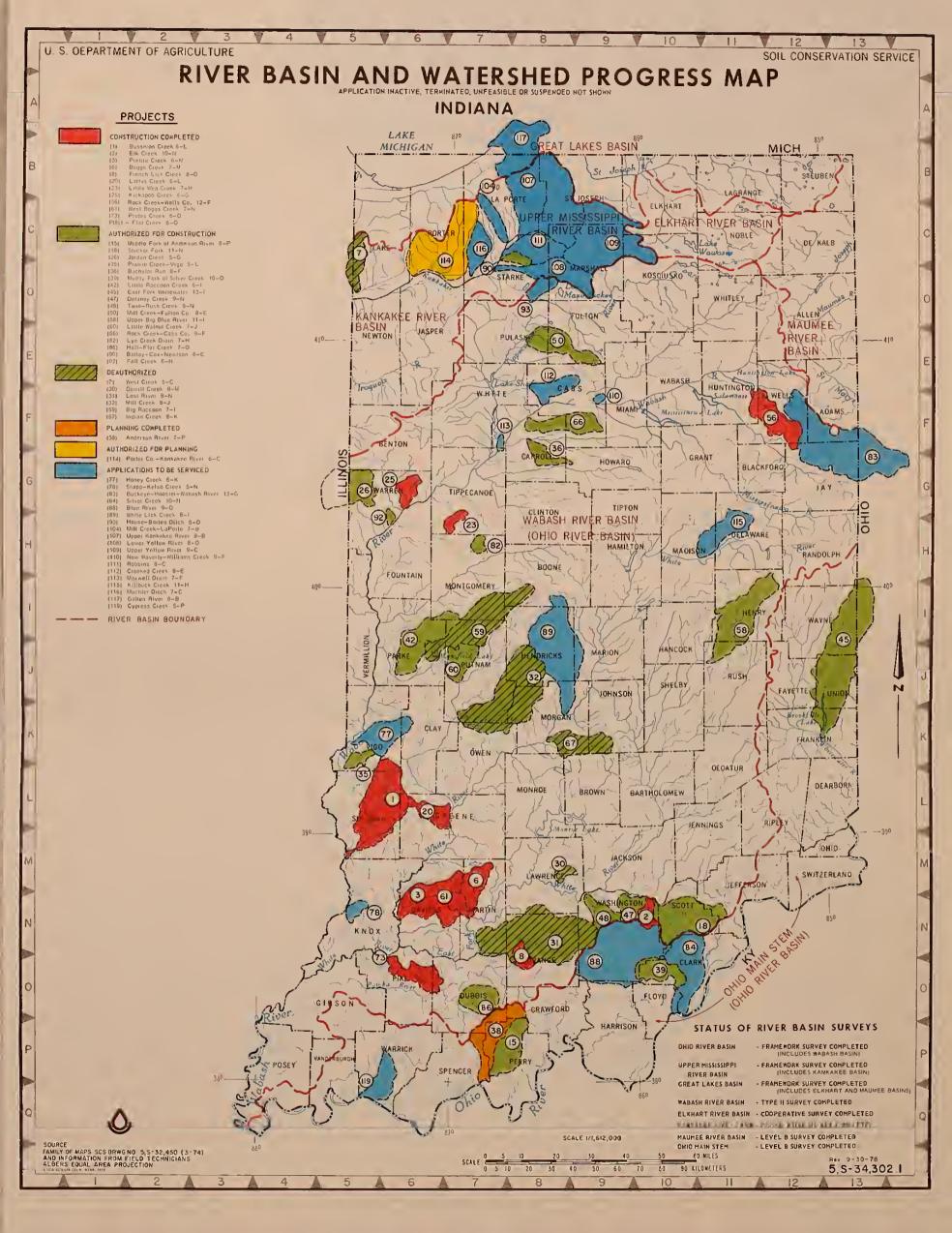
Soil Conservation Service
United States Department of Agriculture
Corporate Square-West, Suite 2200
561.0 Crawfordsville Road
Indianapolis, Indiana 46224
Telephone Number - 317-269-6515

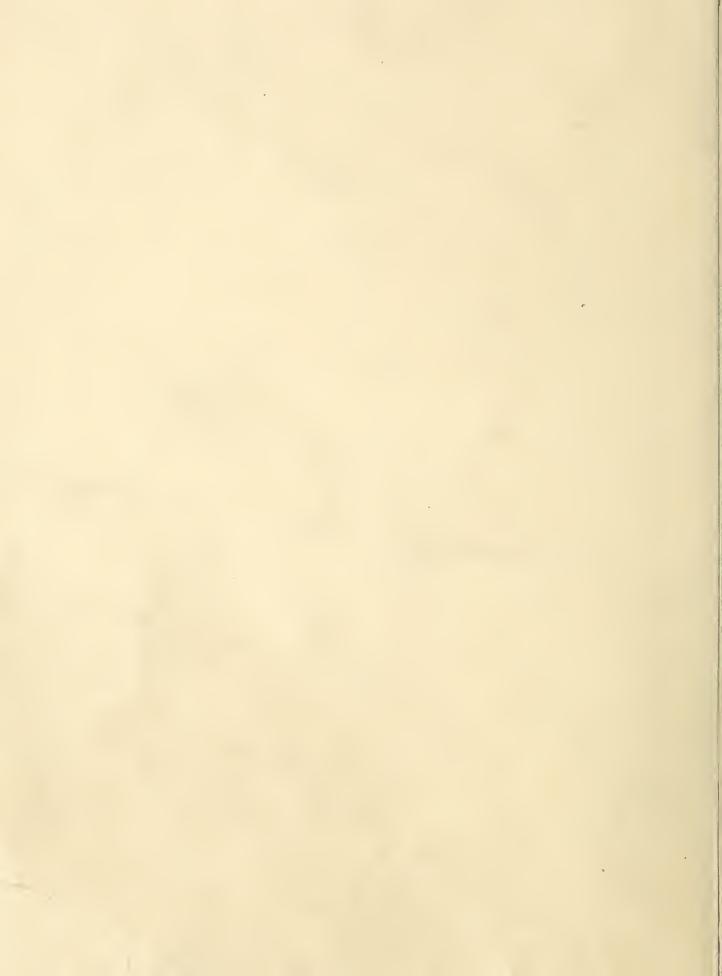


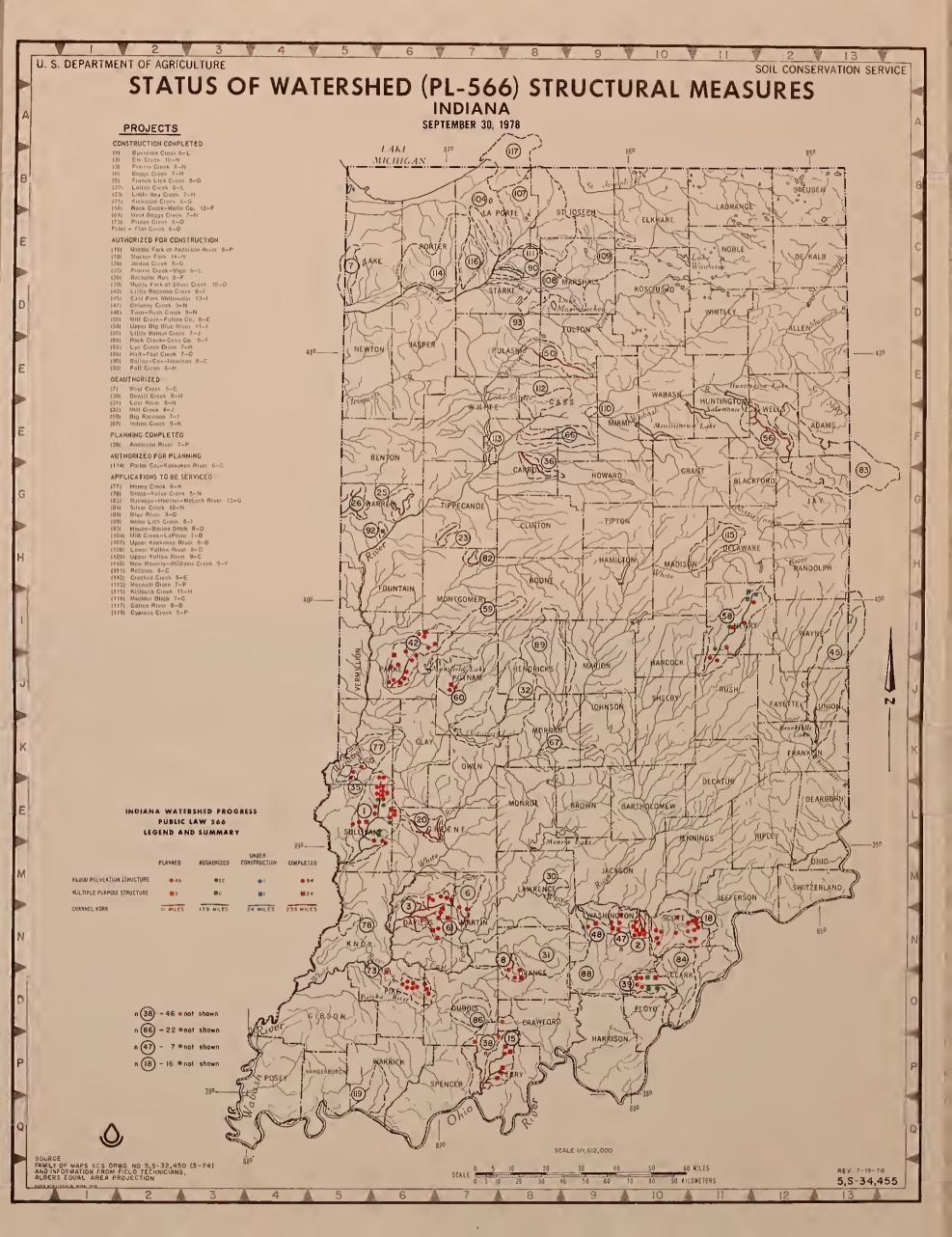
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WATERSHED STATUS CHARTS

The following charts show the status of Public Law 566 watershed projects as of September 30, 1976.

LEGEND

Number assigned to the application by the Indiana Natural Resources Commission.

Application Approved

Date application was approved by the Commission

Structural Measures Ch - Channel Work

SP - Single-Purpose Floodwater Retarding Structure

MP - Multiple-Purpose Floodwater Retarding Structure

WS - Water Supply

M&I - Municipal and Industrial Water Supply

Rec - Recreational Facility

Environmental Impact Statement (EIS)

- 1. Environmental assessment underway to determine whether an EIS or an environ—mental impact appraisal (EIA) is required.
- 2. EIS underway
- EIS completed
- 4. Negative declaration completed.

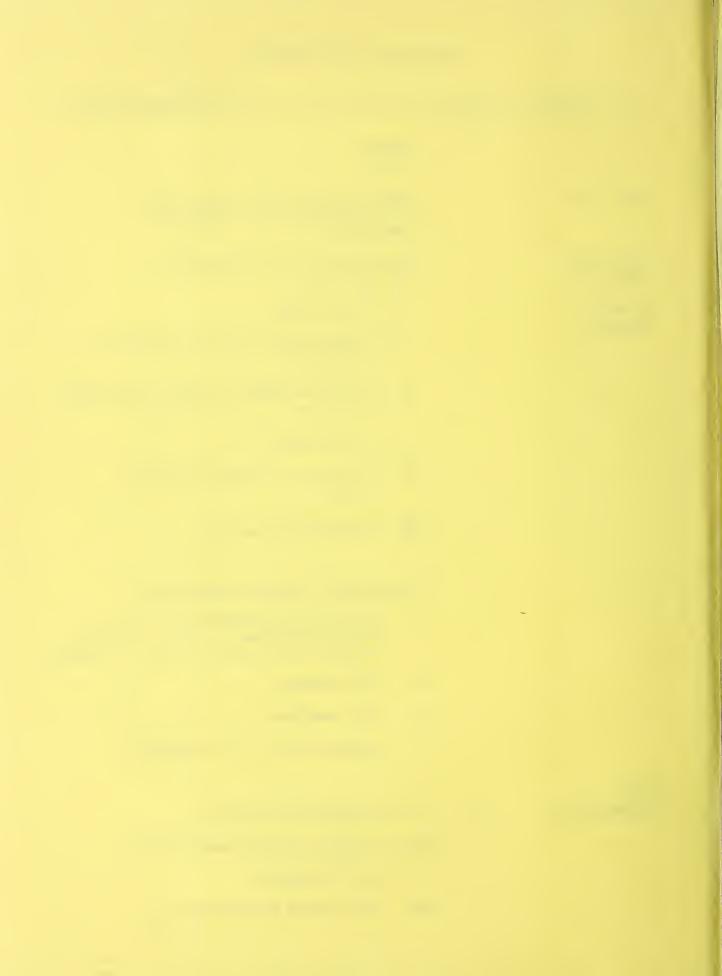
Other Abbreviations

CD - Conservancy District

CEQ - Council on Environmental Quality

LT - Land Treatment

Suppl - Supplements to watershed plan



	(1,2,3,4) Remarks and Notes	Planning assist- ance terminated	Awaiting Congressional approval	Est. Comp. FY80 4 <u>1</u> /Supplements - 2	3 Est. Comp. FY82	Application withdrawn	Application withdrawn	Application withdrawn	Deauthorization procedures in process	Application withdrawn	Unfeasible under PL-566	Application withdrawn	Unfeasible under PL-566	To be serviced	Comp. FY65. Total cost \$700,788		
	Measures Completed SP MP Other			14 mi. Ch					2 Pub. ac-						8 mi Ch		
	Structural Mea Planned (MP Other SP		2 Rec Fac, 2 M&I Fac 3 & 11 mi. Ch	21 mi. Ch 2*	1 Pump Plant, 26.2 mi Ch,**				15 mi. Ch & 4 Pub.ac- 6 cess sites						8 mi. Ch 2		
HOY BOY	Authorize Operation		- 46	4 2*-	9				2	+					2		
40 to	BULLIN	1		4/64	9//6				4/69						8/29		
40136	Stanta de la complete	11/62	10/67	4/62	5/75				5/65						11/56		
Pa	DELLES AND TO SERVICE SOND TO	10/62	8/67	11/61	2/69	3/63	4/64	4/63	4/64		1/72		1971			1975.	ا ب
SUE	13510		1/68	8/64	10/72				99/8						77		
401,	perondali signification	5/61	09/6	2/60	8/67	10/58	8/62	2/60	12/62	2/68	11/68	11/63	10/69	11/66	7/55	or spawning ith CEQ, June	
	Size (Ac.)	20,783	97,174	23,519	12,070	54,476	162,796	112,000	133,120	42,880	89,472	000,09	4,400	125,000	20,800	4-3	
1978	Tributary	E. Fk. White Rvr	Ohio Rvr	Deer Ck	Kankakee Rvr	Kankakee Rvr	Wabash Rvr	Wabash Rvr	ce, Wabash Rvr	Eel Rvr	W. Fk. White Rvr	Wabash Rvr	Galien Rvr	'd, Chio Rvr	E. Fk. White Rvr	cures crol and 14 ac mi. of channe nance Dist.	
September 30,	Location (County(ies)	Daviess	Perry, Dubois, Spencer & Crawford	Carroll & Howard	Starke	Jasper	Gibson, Posey & Vanderburgh	White, Benton & Warren	Montgomery, Parke, Boone, Putnam & Hendricks	Clay	Greene, Knox & Sullivan	Gibson & Posey	LaPorte, IN Berrien, MI	Washington, Floyd, Harrison & Clark Ohio Rvr	Martin & Daviess	*2 Grade Stabilization Structures **14 structures for water control and 14 agre-area 1/Negative Declaration on 8 mi. of channel filed 2/Sponsor - Boggs Ck Maintenance Dist.	
Status as of	Watershed Name	Aikman Ck	Anderson Rvr.	Bachelor Run	Bailey-Cox- Newtson	Barnard Ditch	Big Creek	Big Pine	Big Raccoon Ck.	Birch Ck	Black Ck	Black Rvr	Blood Run	Blue River	Boggs Ck	*2 Grade Sta **14 structur 1/Negative 2/Sponsor	
	Appl. No.	(41)	(38)	(36)	(06)	(14)	(52)	(34)	(69)	(68)	(86)	(72)	(102)	(88)	(9)		

	Remarks and Notes	Inactive	Unfeasible under PL-566	To be serviced	To be completed - FY79 Suppl - 6	Appl withdrawn	Inactive	Inactive	Appl withdrawn	Inactive	Inactive	To be serviced	Inactive	To be serviced	Inactive	Eşt, Comp FY80		
	EIS (1,2,3,4)															421		
	asures Completed MP Other				9 mi. Ch & 2 Rec Fac	1 1 1 1 1 1										0		
	Measures Comple SP MP				2											ო		
	SP				18											2		
	Structural Planned MP Other				53 mi. Ch 2 & 5 mi. Tevees											3 Rec Fac		
40,54	SP				24						+	+		$\dot{+}$		6		
10 y Po	STONAUNA STONAUNA STONAUNA STONAUNA STONAUNA MASSIONAU				8/28											4/69		
40176	Authorize Marine Ma Ma Marine Marine Marine Marine Marine Ma Ma Marine Marine Marine Ma Ma Marine Ma Ma Ma Marine Marine Ma Ma Ma Ma Ma Ma Ma Ma Ma Ma Ma Ma Ma				1/55								17/8			2/64		
AJ P	Sylvania Authorization				1/55						12/61		10/69			10/63		- 4 -
OUE	13870				3/60						-		/70	- -1		6/64	structures.	
915	Sestinas Sestinas Sestinas	07/7	11/63	9/65	9/54	2/63	4/63	0//2	69/9	7/63	3/29	11/70	4/66	10/77	12/62	19/6	SP struc	
	Size (Ac.)	12,704	196,500	245,000	153,280	28,800	102,700	4,000	35,320	169,742	55,000	40,000	25,406	42,280	96,640	21,905		
<u></u>	Tributary	St. Joseph Rvr	Wabash Rvr 196,500	Wabash Rvr	Wabash Rvr 153,280	Ohio Rvr	St. Joseph Rvr	Wabash Rvr	Wabash Rvr	Wabash Rvr 169,742	Ohio Rvr	Wabash Rvr	Eel Rvr	Ohio Rvr	Little Calumet & Burns Ditch	Muscata- tuck Rvr	ounty Drainagnel work and	
September 30, 1978	Location (County(ies)	St. Joseph	Vermillion & Vigo, IN, & Vermilion & Edgar, IL	Wells, Adams & Jay, IN, & Mercer, OH	Sullivan, Clay Greene & Vigo	Posey	DeKalb & Noble	Wabash	Huntington & Whitley	Fountain, Parke & Montgomery	Spencer	Cass	Clay, Putnam & Parke	Warrick	Lake & Borter	Washington	$1/$ Sponsored by the Warrick County Drainage Board $\overline{2}/$ Supplement #5 deleted channel work and added 7	
Status as of	Watershed Name	Bowman Ck	Brouilletts	Buckeye- Hoosier- Wabash	Busseron Ck	Casselberry Ck	Cedar Ck	Charley Ck	Clear Ck	Coal Ck	Crooked Ck	Crooked Ck	Croys Ck	Cypress Ck	Deep Rvr	Delaney Ck	$\frac{1}{2}$ Sponsored	
	Appl.	(106)	(11)	(83)	3	(70)	(65)	(105)	(101)	(89)	(24)	(112)	(87)	(119)	(55)	(47)		

	EIS (1,2,3,4) Remarks and Notes	Closed out	Comp. FY65, Total Cost - \$857,239	3 Est. Comp. FY80	Planning assistance termi-	nated Planning assis- tance terminated	Comp. FY67, Total Cost - \$1,082,114	Planning by Mich.	Unfeasible under PL-566	Planning assist- ance terminated	Planning by Ohio	Planning assistance terminated	3 Est. Comp. FY84	To be serviced	To be serviced	Deauthorization procedures in process		
	ted		4 14 mi. Ch	streambank protection			1 5 mi. Ch											
	Structural Me		4 14 mi. Ch 3	l Rec Fac & streambank protection			1 5 mi. Ch 3									2 basic w basic		
404	Dasitons do on serial s	8	3				e 0						5 22			∞		
404	Partur Author	6/63	7/57	9/73			09/2						9//6			99/8		
40	Authorized Authorized Authorized	8/62	1/55	1//1	5/76	1/66	11/56			10/72		1/65	2/70			4/64		
~	Sonservancy Orstriancy Organized Investigati bestinged Completed	5/62		1/71		5/66	2/59			2/72		29/9	10/67			12/63		- 5 -
~	Conservance District		85/9	7		99/11	3/60						12/68					
	Application boyout	10/59	9/54	2/68	69/01	2/60	95/5	6/72	6/72	3/69	3/68	1/64	5/66	3/65	2/68	4/63		
	Size (Ac.)	9	18,020	4,850	6,200	128,000	21,880	111,714	2,801	2,574	28,224	10,145	43,385	61,151	23,700	59,160	Board &	
1978	Tributary	Guthrie Ck	Muscatatuck Rvr	Wabash Rvr	Wabash Rvr	Auglaize Rvr, OH	Lost Rvr		Sandcreek	Wabash Rvr	Maumee Rvr OH	Wabash Rvr	Patoka Rvr	Wabash Rvr	Wabash Rvr	W. Fk. White Rvr	nd Recreation oard	
September 30,	Location (County(ies)	Lawrence	Washington	Warren	Vermillion	Allen & Adams IN, Van Wert & Paulding, OH	Orange	LaPorte & St. Joseph, IN & Berrien, MI	Decatur	Cass	DeKalb, IN, Paulding & Defiance, OH	Posey	Dubois	Vigo & Clay	Starke, Marshall & Pulaski	Brown, Morgan, Johnson & Monroe	1/Sponsors- Williamsport Park and Recreation Williamsport Town Board	
Status as of	Watershed Name	Dewitt Ck	E1k Ck	Fall Ck	Feather Ck	Flat Rock Ck	French Lick Ck	Galien Rvr	Gas Ck	Goose Ck	Gordon Ck	Gresham Ck	Hall-Flat Ck	Honey Ck	House-Bartee	Indian Ck	1/Sponsors- W	
	Appl.	(30)	(2)	(95)	(103)	(33)	(8)	(117)	(118)	(100)	(94)	(74)	(98)	(77)	(63)	(67)		

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	(1,2,3,4) Remarks and Notes	Planning assis- tance terminated	Planning assis- tance terminated	Planning assis- tance terminated	3 Est. Comp. FY86	l Planning underway	To be serviced	Const. Comp. FY72 Cost - \$774,127	To be serviced	Comp. FY72, Total Cost -\$1,763,886	Appl. withdrawn	Appl. withdrawn	Appl. withdrawn	Appl. withdrawn	Appl. withdrawn	
	Measures Completed SP MP Other				1 mi. Ch			9 mi. Ch & Pump Sta.		22 mi. Ch 8 7 miles levees						
40,	Structural Structural SP MP Other			28mi . Ch	50*smi grassed 50*20mi. tile,	47mi sur- face drains		9 mi. Ch		22 mi. Ch &7 miles						
104	besterning of the state of the				9//9			10/63		9/62						
40,	Authorigati	11/65	09/8	8/60	4/69	77/2		1/63		12/61						
	Ded Organization of the constant of the consta	10/65	4/60	4/60	1/76			11/62		19/6	19/8	95/6	11/63			9
^1	Sue Lay Sig	12/68	09/9	09/9	5/69			11/64		6/63						
	O 1 SO 1	7/63	9/57	9/57	5/64	1/71	7/70	4/59	1/71	1/59	65/2	95/9	6/62	7/59	10/58	
	Size (Ac.)	163,077	233,982	228,152	35,123	151,570	234,287	24,700	66,560	35,780	46,000	14,240	175,360	230,000	17,500	
78	Tributary	Ohio Rvr	Kankakee Rvr	Kankakee Rvr	Vermilion Rvr, IL	Kankakee Rvr	Kankakee Rvr	Wabash Rvr	W. Fk. White Rvr	W. Fk. White Rvr	Big Flat Rock Ck	Patoka Rvr	Wabash Rvr	Ohio Rvr	Ohio Rvr	n 1963. es
Status as of September 30, 1978	Location (County(ies)	Harrison, Floyd & Clark	Jasper, White, Newton & Benton	Newton, Benton, Jasper, IN & Iroquois, IL	Warren, IN	Porter, Lake & LaPorte	St. Joseph, La- Porte, Marshall, Starke, IN & Berrien, MI	Warren	Delaware & Madison	Greene	Shelby	Crawford & Orange	Crawford, Orange & Dubois	Warrick	Spencer & Warrick	 1/ Applications were combined in 1963. * Grade Stabilization Structures
Status as of	Watershed Name	Indian Ck Little Indian Ck	Upper Iroquois Rvr	Lower Iroquois Rvr	Jordan Ck	Porter Co Kankakee	Upper Kankakee Rvr	Kickapoo Ck	Killbuck Ck	Lattas Ck	Lewis Ck	Little Patoka Ck	Upper Patoka Rvr	Little Pigeon Ck	N. Fk. Little Pigeon	1/ Application * Grade Stabi
	Appl.	(69) ₁ /(4)	(11)	(10)	(56)	(114)	(107)	(25)	(115)	(20)	(53)	(5)	(49)	(28)	(16)	

	EIS (1,2,3,4) Remarks and Notes	Appl. withdrawn	1/ Project completed 41/ FY77. LT measures continuing.	Planning assis- tance terminated	3 Suppl. Comp. 3/ Est. Project Comp	Comp. FY67, Total Cost - \$382,314	Unfeasible under PL-566	Appl. withdrawn	Appl, withdrawn	Deauthorization procedures	3 Est. Comp. FY80	To be serviced	Inactive	Planning by Ohio	To be serviced			
	Measures Completed SP MP Other		2 Rec Fac 13 3 43 mi. Ch		2	9 mi. Ch					1 mi. Ch							
	Structural Planned MP Other		2 Rec Fac & 3 43 mi. Ch		1 Rec Fac	9 mi. Ch				2 44 mi. Ch	11 mi. Ch							
401 p	BAINONAUA BAINONAUA GNOIZENAGO		9/65 13		4/69 2	9/62				9/70 8	2//9							
~ P	a. : 411.		8/63	69/63	12/66	3/62 5				99/1	11/71		+					
1	20175000		6/62	6/63	1/65	12/61	+			7/63	1 89/9					uired		- 7 -
.50	Distran		29/9		2/67	1/63				99/01	2/						-	
40.	Maplicati Sonovova Sonos	12/62	19/2	10/60	12/62	3/59	2/58	10/58	9/9	2/60	9/9	1/72	12/58	10/68	17/1	k - 5/76. Will not	-	
	Size (Ac.)	34,000	98,306	183,600	41,225	11,960	15,000	3,200	17,100	233,690	12,900	36,400	55,000	17,728	5,500	annel wor	_	
78	Tributary	Wabash Rvr	Big Raccoon Ck	Wabash Rvr	Big Walnut Rvr	Big Wea Ck	Ohio Rvr	Wabash Rvr	Wabash Rvr	E. Fk. White Rvr	Lye Ck	Kankakee Rvr	Wabash Rvr	Maumee Rvr	Wabash Rvr	remaining churainage Board		
September 30, 1978	Location (County(ies)	Tippecanoe, Warren & Benton	Montgomery, Parke & Putnam	Huntington, Allen, Wells & Whitley	Putnam & Parke	Tippecanoe & Montgomery	Switzerland	Adams	Vigo	Orange, Martin, Washington, Law- rence & Dubois	Montgomery	LaPorte	Knox & Sullivan	Allen, DeKalb, IN & Defiance & Paulding, OH	Carroll & Tippecanoe			
Status as of	Watershed Name	Little Pine Ck	Little Raccoon Ck	Little River	Little Walnut Ck	Little Wea	Log Lick Ck	Long-Amstutz Ditch	Lost Ck	Lost River	Lye Ck Drain	Machler Ditch	Mariah Ck	Marie Delarme	Maxwell Drain	1/Negative Dec 2/Sponsor - Mc 3/EIA on remai	I	
	Appl. No.	(22)	(42)	(37)	(09)	(23)	(12)	(13)	(80)	(31)	(82)	(116)	(19)	(96)	(113)			

	EIS (1,2,3,4) Remarks and Notes	Appl, withdrawn	Est. Comp FY83 2 3 Suppl. Comp.	Unfeasible under PL-566	Deauthorization procedures in process,	Design of additional LT measures continuing.	To be serviced	Appl. withdrawn	Appl. withdrawn	2 Est. Comp. FY82 3 Suppl. Comp.	To be serviced	Inactive until 6/79	Appl, withdrawn	Inactive	Unfeasible under PL-566			
	Measures Completed SP MP Other		4 12 mi. Ch			16 mi. Ch												
	Me		2							m								
	Structural Planned MP Other		34 mi. Ch		52 mi. Ch	16 mi. Ch				Rec Fac, M&I Outlet, &l3 mi. Ch								
,	Plar MP		4		2					4								
JOY PO	Operation Spanial	+		-	5 12	- 10 - 1				رت س			-	-	-			
401 PA	Duign		19/8		10/65	4/65				8/65								
40170	Stronty Strong Strongly		3/59		10/62	2/64				1/63								
Ade	121/06/10 10/06/10 10/06/10 10/06/10 10/06/10		10/58		29/2	11/63				9/62		0///	3/64	12/67	4/64		(- - - -
346	Distrue		12/59		4/67	12/65				8/65	1			69/2				
40/	A PO TO STORY OF STOR	5/64 -	10/58	- 65/2	9/9/	1 29/9	- 69/01	4/63 -	4/63 -	5/61	9/70	- 59/9	4/59 -	10/64	9/61 -			
								•										
	Size (Ac.)	7,000	69,400	46,000	187,136	34,080	34,000	218,500	225,815	42,642	3,053	82,160	230,000	81,390	85,000			
78	Tributary	Eel Rvr	Ohio Rvr	Salt Ck	Eel Rvr	Tippecanoe Rvr	Kankakee Rvr	Wabash Rvr	Wabash Rvr	Silver Ck	Wabash Rvr	Wabash Rvr	Ohio Rvr	St. Joseph Rvr	W. Fk. White Rvr			
September 30, 1978	Location (County(ies)	Clay	Perny & Crawford	Brown & Bartholomew	Hendricks, Owen Morgan & Putnam	Fulton & Pulaski	LaPorte	Delaware, Jay, Randolph, IN & Darke, OH	Grant, Jay, Dela- ware & Blackford	Clark, Floyd & Washington	Cass	Vigo, Clay & Parke	Vanderburgh, Warrick & Gibson	Steuben	Madison, Delaware & Hamilton			
Status as of	Watershed Name	McIntyre Ck	Middle Fk. Anderson Rvr	Middle Fk. Salt Ck	Mill Ck	Mill Ck- Fulton	Mill Ck- LaPorte	Upper Mississinewa	Lower Mississinewa	Muddy Fk. Silver Ck	New Waverly- Williams Ck	Otter Ck	Pigeon Ck	Pigeon Rvr	Pipe Ck			
	Appl.	(75)	(15)	(27)	(32)	(20)	(104)	(63)	(64)	(39)	(110)	(81)	(22)	(76)	(46)			

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	EIS (1,2,3,4) Remarks and Notes	Appl. withdrawn	Comp. FY70. Total Cost- \$4,663,489	<pre>2 suppl completed. 3 Est. proj. comp. FY80</pre>	To be completed FY79	To be serviced	<pre>3 Final contract.Est. proj. comp. FY79</pre>	Proj. completed. Prepara- tion of final costs under- way.	Planning by Mich	Planning Assis- tance terminated	To be serviced	To be serviced	Appl. withdrawn	Appl. withdrawn	4 ¹ / _{Suppl.} Comp 5 Est. Comp.FY84	
	Measures Completed SP MP Other		15mi.Levees 1 *47 mi. Ch		1 Rec Fac		1 mi. Ch	27 mi. Ch							3 mi. Ch	
_	Structural Planned MP Other		15mi.Levees 1 *47 mi. Ch 10	6 mi. Ch 3	1 Rec Fac & 6 mi. Ch		15 mi. Ch	27 mi. Ch							3 mi. Ch 15	
104/	SHOT SEY ON ON ON SHOW		5/58 10	8/64 3	10/66 2		69/2	3/67							9/62 31	
401	Completed Authorized Authorized Authorized		56 10/55	52 10/62	54 10/64		79/1 /62	1/66		55 2/67					19/9 09	
1.	Dogo Polo Polo Polo Polo Polo Polo Polo P		2/59 3/56	12/64 8/62	8/65 7/64		9/67 4/67	3/66 10/65		3/65	3/72-				4/64 12/60	
4	Tolder of the state of the stat	69/1	9/54 2	5/60 12	11/63 8	02/11	4/63 9,	12/62 3,	89/01	8/62	11/65	4/65	89/6	7/57	1/59 4,	
	Size (Ac.)	21,500	88,690	19,095	9,213 1	58,680 1	56,533	61,020 1	249,000 1	162,378	97,800	16,000	27,570	18,500	117,850	8 16. need for
æ	Tributary	Eel Rvr	E. Fk. White Rvr	Wabash Rvr	White Rvr	Kankakee Rvr	Wabash Rvr	Wabash Rvr	Maumee Rvr	Wabash Rvr	Ohio Rvr	Wabash Rvr	Eel Rvr	Singleton Ditch	Muscatatuck Rvr	uctures structures 13 ed to reduce 1
September 30, 1978	Location (County(ies)	Huntington, Wabash & Whitley	Daviess & Martin	Vigo	Pike	Starke, St. Joseph, LaPorte & Marshall	Cass & Carroll	Wells & Huntington	Steuben, IN, Williams, OH & Branch & Hillsdale,	Jay, Wells & Blackford	Clark, Floyd & Scott	Knox	Vigo & Clay	Lake	Scott, Clark, Jefferson & Washington	*Plus 10 grade stabilization structures
Status as of	Watershed Name	Pony Ck	Prairie Ck	Prairie Ck- Vigo	Prides Ck	Robbins	Rock Ck-Cass	Rock Ck-Wells	St. Joseph of the Maumee	Salamonie Rvr	Silver Ck	Snapp-Kelso	Splunge Ck	Spring-Run- Griesel	Stucker Fk.	*Plus 10 grade 1/Negative Decl Sixteen small channel work
	Appl.	(66)	(3)	(32)	(73)	(111)	(99)	(99)	(6)	(19)	(84)	(78)	(16)	(6)	(18)	

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	EIS Demarks and Motos	Appl.	Planning assis- tance terminated	Supplements - 3 2&4* Est. comp. FY80	2&4** Est. comp, FY80 Supplements - 1	Appl. withdrawn	Planning assis- tance terminated	Planning assis- tance terminated	Planning assis- tance terminated	Closed Out	To be completed FY79	Appl. withdrawn	To be serviced	Planning assistance terminated	CD in Indiana portion of watershed dissolved. Work continuing in Ohio,	work.
	ted				7 mi. Ch & 1 Rec Fac											remaining
	Measures Comple	!			5						- !					k.
	Structural M Planned MP Other			WS Fac & 10 mi, Ch	33 mi. Ch 2 Rec Fac						Rec Fac & 5 mi. Ch				1 Ch Rec Dev. & 20 mi. Ch	iled with CEE 4/76. Environmental assessment will be mad with CEQ 3/76. EIS will be prepared for remaining wdrk.eek Maintenarce District
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404	Suchorized Sandring	0 9		4/65	99/8					12/59 -	99/01				10/74	prepare
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BACHELOR RUN CREEK PROJECT CARROLL AND HOWARD COUNTIES

The Project in Brief. Authorized - April 24, 1964. Estimated completion in the fiscal year 1980. Area - 23,519 acres. Sponsors - Bachelor Run Conservancy District and the Carroll County Soil and Water Conservation District. Estimated total cost - \$869,516 (\$460,139 PL-566 and \$409,377 Other). Principal problems - floodwater and detrimental effects of excess water on the surface and internal drainage of agricultural land and flooding in the town of Flora. Landownership and use - 60 percent owner-operated; 40 percent tenant-operated; 21,000 acres cropland, 600 acres grassland, and 1,000 acres woodland.

<u>Progress in Land Treatment</u>. Landowners involved - 195 farms, of which 168 are cooperators; 162 have basic conservation plans. Basic land treatment was completed in 1970. A follow through and maintenance program is being carried out. A few group projects remain to be completed as soon as an adequate drainage outlet is secured. Estimated cost of land treatment - \$281,916, of which \$40,037 is for technical assistance.

Progress in Structural Measures. The first unit of construction was completed in October 1968 (4.1 miles of channel work). To date, 13.4 miles of channel work, six grade stabilization structures, a pumping plant, and 2,000 feet of open channel have been completed; 5.8 acres of wildlife plantings have also been completed in connection with related structural measures. Construction on the next 4.2 miles of channel work began September 1978. Total measures include 11 grade stabilization structures, the pumping plant, 2,000 feet of open channel, and 20.6 miles of channel work. Estimated cost of structural measures - \$587,600 (\$424,534 PL-566 and \$163,066 Other).

Progress in Obtaining Easements and Rights-of-Way. The Bachelor Run Conservancy District obtained easements in 1978 for Unit No. 4 (4.2 miles of channel work). Criteria have been established for securing easements for Kuns Lateral (the final unit of work) and the land rights maps are completed.

Effectiveness of Project Proved. The channel work completed to date has effectively contained all storm flows. This includes storms of more than 4 inches of rainfall covering the entire watershed. The completed channel has also provided an adequate outlet for the storm sewers of the town of Flora and for several other previously poorly drained areas. Very little flooding has occurred in these areas since reconstruction. The channel is providing a good outlet for agricultural drainage. Less crop damage is evident. Wildlife is abundant in the reconstructed portions of the channel. A different type habitat (more grassland) has induced a greater variety of small game.

BAILEY - COX - NEWTSON PROJECT STARKE COUNTY

The Project in Brief. Authorized - September 1976. Plan approved in Starke County Circuit Court - May 11, 1978. Estimated completion in fiscal year 1982. Area - 12,070 acres. Sponsors - Starke County Soil and Water Conservation District and the Bailey-Cox-Newtson Conservancy District. Total estimated cost - \$1,470,560 (\$675,450 PL-566 and \$795,110 Other). Request for Obligation of Funds submitted to Farmers Home Administration - June 1978. Principal problems - floodwater damage, inadequate land and water management, erosion, inadequate drainage and droughty soil conditions. Landownership and use - 9,910 acres cropland; 390 acres pastureland; 480 acres woodland; and 1,290 acres of other land. All of the watershed is privately owned except 200 acres owned by the Starke County Airport Authority.

Progress in Land Treatment. Of the approximately 107 farms, 40 landowners have agreements with the Starke County Soil and Water Conservation District. Of these, 34 have conservation plans. The entire watershed has a progressive soil survey. Major conservation practices planned are conservation cropping system, crop residue use, surface drainage, grade stabilization structures, minimum tillage, and subsurface drains. Total estimated cost of land treatment - \$338,670, of which \$33,830 is for technical assistance.

Progress in Structural Measures. Structural measures consist of 26.2 miles of multiple purpose flood prevention and drainage work (19.0 miles of deepening and/or enlargement and 7.2 miles of selective clearing only), 6,900 lineal feet of dike, a pump station at the watershed outlet, 14 structures for water control, and a 14 acre area for northern pike spawning. No structural measures have been started. Estimated cost of structural measures, \$1,098,060 (\$655,720 PL-566 and \$442,340 Other cost).

Progress in Obtaining Easements and Rights-of-Way. The original application for the Bailey-Cox-Newtson Conservancy District was approved by the Indiana Natural Resources Commission on May 15, 1972. Easements and rights-of-way to perform structural measures will be provided or acquired by the Conservancy District. Land rights maps will be prepared by the Soil Conservation Service and furnished to the sponsors in April 1979.

BIG RACCOON CREEK PROJECT MONTGOMERY, PUTNAM, BOONE, PARKE, AND HENDRICKS COUNTIES

The Project in Brief. Authorized - April 1, 1969. Estimated completion - undetermined. Area - 133,120 acres. Sponsors - Montgomery, Putnam, Parke and Boone soil and water conservation districts and the Big Raccoon Creek Conservancy District. Estimated total cost - \$4,601,359 (\$1,835,617 PL-566 and \$2,765,742 Other). Principal problems - flooding damage to crops, pastures, roads and bridges, urban properties, and flood plain land. A large storm causes flooding of up to 4,840 acres. Landownership and use - privately-owned except for Mansfield Reservoir (Corps of Engineers structure in the watershed area), which has 5,115 acres of federally-owned land, and Raccoon Creek recreational area which has 200 acres of state-owned land; 95,086 acres cropland, 20,235 acres grassland, 13,998 acres woodland and 3,801 acres other land.

Progress in Land Treatment. Landowners involved - 800 farms averaging 166 acres; 48 percent of landowners are district cooperators and 37 percent of landowners have basic conservation plans. An estimated 49 percent of necessary land treatment has been accomplished. Planned land treatment measures include conservation cropping systems, grassed waterways, ponds, grade stabilization structures, diversions, crop residue use, pasture planting, woodland protection and installation of open and closed drains. Estimated cost of land treatment - \$4,165,595, of which \$472,226 is for technical assistance and soil survey.

Progress in Structural Measures. None of the planned project measures has been installed. The Big Raccoon Conservancy District, viable sponsor of the project, was dissolved by election in accordance with the 1977 amendment to the Indiana Conservancy Act (Senate Bill 490).

BUSSERON PROJECT SULLIVAN, VIGO, CLAY, AND GREENE COUNTIES

The Project in Brief. Authorized - June 1958. Estimated completion in the fiscal year 1979. Area - 153,000 acres (all privately-owned except approximately 1,726 acres state-owned in Shakamak Park and 1,177 acres in Sullivan County Park and Lake.) Sponsors - Sullivan, Clay, Greene and Vigo county soil and water conservation districts, Indiana Department of Natural Resources, Busseron Conservancy District and Sullivan County Park and Recreation Board. Principal problems - floodwater and sediment damage to agricultural lands, state and county roads and bridges, utilities, and pollution from strip mines. Landownership and use - 11.9 percent tenant operated; 82,940 acres cropland- 54.1 percent, 20,470 acres grassland - 13.4 percent, 18,190 acres woodland - 11.8 percent, 7,230 acres idle - 4.2 percent, 24,450 acres miscellaneous - 16 percent (includes extensive strip mines in area).

Progress in Land Treatment. Approximately 450 farms in watershed. Goal for district cooperators has been exceeded. Completion of conservation plans is in line with planned accomplishments. The goals for terracing and tiling have been achieved. Progress in agronomic practices is being made. Progress is also being made in erosion control practices.

Progress in Structural Measures. Twenty-one of the planned 26 structures have been completed at a PL-566 cost of \$1,716,634. Two were multi-purpose recreation and flood control structures. Expansion of recreation facilities on both multi-purpose structures was completed in FY77. There are 301 camp sites at the Sullivan County Park. Eight and eight-tenths miles of planned 53 miles of channel have been completed at a PL-566 cost of \$65,294.

Construction of the remaining structural measures is not anticipated. Procedures are underway to close project and terminate further PL-566 assistance.

<u>Progress in Obtaining Easements and Rights-of-Way</u>. The total cost of land easements and rights-of-way for the completed structures, two recreation facilities and 8.8 miles of channel, was \$566,991 of which \$231,294 was PL-566. A Farmers Home Administration loan docket for long-range financing has been funded. Part of the first phase of this loan, \$158,200, was used by the Conservancy District to obtain land rights on Structure F-1.

Case Histories of Watershed Project Benefits.

Flood Damage Reduction. The 21 installed structures helped control flooding that would have otherwise occurred. After heavy rains fell, clear water was noted to run from many of the mechanical spillways of the structures.

Recreation. The use of the Sullivan County Park and Lake is continuing to increase. The energy crisis has not curtailed the camping activities this year. One 65-acre home development with sewer and water facilities shows steady growth which enhances the local tax base. Local businesses are enjoying an increase in sales from tourists and campers. The multi-purpose structure at Shakamak State Park is an excellent facility. The recreation potential has been greatly increased.

<u>Fish and Wildlife</u>. Fishing reports from the two multi-purpose structures have been excellent. Good catches of bass, crappie, bluegill and channel catfish have been reported this year. Wild ducks are seen on the lake many months of the year.

<u>Local Reaction</u>. The overall reaction is positive. Many local citizens are enjoying the benefits of the watershed project as well as the visitors.

Economics. It is interesting to note that the lake is paying for itself if the loan repayment is not taken into effect. This excludes the income from the increased tax base around the lake. Most of the houses there range between \$50,000 and \$100,000.

DELANEY CREEK PROJECT WASHINGTON COUNTY

The Project in Brief. Authorized - April 1, 1969. Estimated completion in the fiscal year 1980. Area - 21,905 acres of which approximately 70 percent are privately-owned. Sponsors - Washington County Soil and Water Conservation District, Delaney Creek Conservancy District, Washington County Park and Recreation Board, and the Indiana Department of Natural Resources Division of Forestry. Estimated total cost of construction - \$2,770,211 (\$1,888,096 PL-566 and \$882,115 Other). Due to the original plan being revised, these costs will change. Principal problems are floodwater damage and land scour to farmland and roads. Landownership and use - 3,285 acres of cropland, 1,095 acres of grassland, 16,667 acres of woodland and 970 acres idle and miscellaneous.

Progress in Land Treatment. There are 126 farms in the water-shed, of which 55 are cooperators covering 15,812 acres. Forty-six cooperators have basic conservation plans on 13,578 acres. The conservation practices to be installed include improved rotations, grassed waterway, diversions, gully stabilization, pasture renovation, tree planting and improved forestry practices.

Progress in Structural Measures. Of the original five planned structures all have been completed, including No. 5, an 85-acre lake, and contract on recreation facilities was awarded July 1978. However, there will be seven additional structures planned to reduce the need for channel work. Construction on these structures is to start in 1979.

Progress in Obtaining Easements and Rights-of-Way. The County Park and Recreation Board has obtained land rights on Structure No. 5. The Conservancy District will proceed on land rights when supplemental plan is finalized.

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FALL CREEK PROJECT WARREN COUNTY

The Project in Brief. Authorized - November 26, 1973. Estimated completion - in fiscal year 1980. Area - 4,850 acres. Sponsors - Warren County Soil and Water Conservation District, Williamsport Board of Parks and Recreation and the Williamsport Town Board. Estimated total cost - \$1,313,387 (\$265,572 PL-566 and \$1,047,815 Other). Principal problems - upland erosion, stream bank erosion, flooding, and lack of recreational facilities. Landownership and use - 98 percent of the land is privately owned and 2 percent of the land is owned by units of city and county government; 57 percent of the watershed is cropland, 25 percent pastureland, 5 percent forest land, 4 percent wildlife and recreation land, and 9 percent other land. The estimated population of the watershed is 1,770, of which 6 percent live on farms.

Progress in Land Treatment. Landowners involved - 33 farms wholly or partially in the watershed; 22 of the landowners (involving 80 percent of the watershed area) are cooperators and 18 have conservation plans. An estimated 65 percent of the needed land treatment measures have been applied. Planned land treatment includes conservation cropping systems, crop residue management, minimum tillage, grassed waterways, grade stabilization structures, pasture planting and management, wildlife habitat management, etc. Estimated cost of land treatment - \$100,000, of which \$15,000 is for technical assistance.

Progress in Structural Measures. Planned structural measures are one multiple-purpose flood prevention-recreation structure with associated recreation facilities and 150 feet of streambank protection in Williamsport. The streambank protection work was completed in FY 1977. Geological investigations and field surveys for the multiple-purpose structure have been completed. Estimated cost of structural measures - \$1,198,387 (\$242,572 PL-566 and \$955,815 Other).

Progress in Obtaining Easements and Rights-of-Way. Land rights maps for the multiple-purpose structure have been prepared by the Soi? Conservation Service and furnished to the sponsors. The sponsors are working with the Indiana Department of Natural Resources, the Department of Housing and Urban Development and the Farmers Home Administration to secure needed grants and loans to finance the local costs of the project. A study committee for community development in Warren County is studying the feasibility of the multiple-purpose structure with recreation facilities being considered as a county park.

HALL-FLAT CREEK PROJECT DUBOIS COUNTY

Project in Brief. Authorized in September 1976. Estimated completion - in fiscal year 1984. Area - 43,107 acres. Sponsors - Hall-Flat Creek Conservancy District and Dubois County Soil and Water Conservation District. Estimated total cost - \$2,912,127 (\$2,170,790 PL-566 and \$741,337 Other). Landownership and use - 94 percent owneroperated; 6 percent tenant-operated; 16,000 acres cropland, 10,000 acres woodland, 13,000 acres grassland. Principal problems - floodwater damage to crops, pastures, other agricultural properties, roads and bridges. These damages are associated with storms which generally occur two to three times per year. Sheet erosion occurs throughout the upland areas and accounts for 98 percent of total erosion in the watershed. Approximately 87 percent of the watershed soils have erosion hazards. Some minor channel fill occurs through sediment damage and some overbank deposits may be found. Approximately 70 percent of the watershed flood plain soils are imperfectly drained which limits production. Increased pressure for food production has resulted in a tendency of watershed landowners to crop erosion prone slopes beyond their capabilities resulting in excessive erosion.

<u>Progress in Land Treatment</u>. Landowners involved - 310, of which 126 are cooperators and 61 have basic conservation plans. Considerable channel work for improved drainage outlets has been done on individual farms. Estimated cost of land treatment - \$562,217, of which \$177,056 is for technical assistance.

<u>Progress in Structural Measures</u>. Structural measures consist of 22 single-purpose flood prevention structures. No structural measures have been started. Estimated cost of structural measures - \$2,348,910 (\$2,017,434 PL-566 and \$331,476 Other).

<u>Progress in Obtaining Easements and Rights-of-Way</u>. The Conservancy District Plan was approved by the Natural Resources Commission on May 25, 1977.

INDIAN CREEK PROJECT MORGAN, JOHNSON, BROWN, AND MONROE COUNTIES

The Project in Brief. Authorized - August 31, 1966. Estimated completion - undetermined. Area - 59,160 acres. Sponsors - Morgan, Johnson, Brown and Monroe county soil and water conservation districts. Estimated total cost - \$3,208,500 (\$1,204,499 PL-566 and \$2,004,001 Other). Principal problems - erosion and drainage problems in the uplands, flooding and drainage problems in the bottomlands, and water management problems throughout the watershed. Additional recreational facilities are also needed. Landownership and use - 3,685 acres stateowned land (no federally-owned land), balance privately-owned; 22,170 acres cropland, 9,570 acres pastureland, 20,990 acres woodland and 6,430 acres miscellaneous.

Progress in Land Treatment. Landowners involved - 600 farms averaging 90 acres; approximately 51 percent of the land is now under district cooperative agreement. Approximately 63 percent of the cooperators now have basic conservation plans on 27 percent of the total area in the watershed. Land treatment measures to be installed are those having the most hydrologic, erosion and sediment control, significance in reducing floodwater damage and those which contribute to achieving agricultural water management benefits. Total estimated cost of land treatment - \$1,102,000, of which \$340,480 is for technical assistance.

Progress in Structural Measures. Planned structural measures are 8 floodwater retarding structures and 2 multiple-purpose structures (including basic recreation facilities). No structural measures have been installed. Land rights maps will be developed after formation of the conservancy district.

Legal sponsor has not been obtained.

JORDAN CREEK PROJECT WARREN COUNTY

The Project in Brief. Authorized for planning in April, 1969, and approved for operations July 2, 1976. Estimated completion - in fiscal year 1986. Area - 35,123 acres. Sponsors - Warren County Soil and Water Conservation District and Jordan Creek Conservancy District. Estimated total cost - \$2,528,470 (\$1,181,160 PL-566 and \$1,347,310 other). Principal problems - floodwater damage, drainage problems, and erosion and sediment damage. Landownership and use - major portion of land is privately-owned and used agriculturally; 94.5 percent for cropland (33,200 acres), 1.8 percent for pasture (640 acres), 0.1 percent for woodland (25 acres), and 3.6 percent for other (1,260 acres). The estimated population within the watershed is 704, of whom 93 percent live on farms.

Progress in Land Treatment. Landowners involved - 184 farms wholly or partially in the watershed; 122 of the landowners (28,724 acres) are cooperators with the Warren County Soil and Water Conservation District and 77 of the landowners have basic conservation plans (19,207 acres). An estimated 20 percent of the needed land treatment measures have been applied. Planned land treatment includes contour farming, terraces, diversions, minimum tillage, grassed waterways or outlets, grade stabilization structures, subsurface drains, drainage mains or laterals, and wildlife habitat management. Estimated cost of land treatment - \$754,280 of which \$60,440 is for technical assistance.

Progress in Structural Measures. Planned structural measures are 1.5 miles of debris removal on main channel, 12.2 miles of multipurpose flood prevention and drainage channel work, 14.7 miles of new or reconstructed open ditches, 46.7 miles of surface drains, 5.1 miles of grassed waterways, 19.8 miles of subsurface drains in conjunction with surface drains and grassed waterways, and approximately 50 grade stabilization structures. Slightly less than 1 mile of new channel (Reach J) was completed in August 1978. Estimated cost of structural measures - \$1,774,190 (\$1,162,520 PL-566 and \$611,670 Other).

<u>Progress in Obtaining Easements and Rights-of-Way</u>. Land rights maps for the second and third units of work (Reaches D and E) have been prepared by the Service and have been provided to the sponsors.

LITTLE RACCOON CREEK PROJECT PARKE, MONTGOMERY, AND PUTNAM COUNTIES

The Project in Brief. Authorized - September 10, 1965. All structural measures were completed August 1977. Area - 98,306 acres. Sponsors - soil and water conservation districts of Parke, Montgomery and Putnam Counties and the Little Raccoon Creek Conservancy District. Estimated total cost - \$4,444,720 (\$2,891,970 PL-566 and \$1,552,750 Other). Principal problems - damage to crops and pastures from flooding, land damage in the flood plain, upland erosion and lack of recreational facilities. Landownership and use - 65 percent owner-operated, 35 percent tenant-operated; 66,523 acres cropland, 9,240 acres pastureland, 16,750 acres woodland and 5,793 acres - other land.

Progress in Land Treatment. Landowners involved - 609. Approximately 92 percent of the total area is under district cooperator agreement and about 72 percent is under conservation plan. Major practices planned are pasture planting, ponds, diversions, waterways, conservation crop systems, crop residue use, tile, open drains and woodland improvement. Approximately 88 percent of the needed land treatment measures has been completed. Land treatment measures were needed on 23,125 acres cropland, 4,200 acres grassland, 9,390 acres woodland and 1,830 acres other land. Estimated cost of land treatment - \$755,385, of which \$317,995 is for technical assistance.

Progress in Structural Measures. All structural measures have been completed: 16 structures (13 single-purpose, 2 multiple-purpose flood prevention-public recreation and 1 multiple-purpose flood prevention-private recreation), 2 recreational facilities, and 43 miles of limited channel work. Multiple-purpose structure No. 8 with a 360-acre permanent pool and associated recreation area with facilities was opened to the public on Memorial Day weekend in 1972. Recreation facilities are operated by the Waveland Park Board. A Public Works grant exceeding \$400,000 was used to completely redo and enlarge all hard-surfaced roads and parking areas. The modern camp site area was enlarged, restrooms were enlarged with facilities for handicapped, professional size tennis courts were added, a new primitive camping area was developed, a new shop and storage building was built, and a modern floating lighted marina was added. Multiple-purpose structure No. 2C, with a 100-acre permanent pool and a 100-acre recreation area was dedicated May 27, 1973; recreation facilities are operated by the Parke County Park Board. Both are receiving wide usage. Estimated cost of structural measures - \$3,689,340 (\$2,704,380 PL-566 and \$984,960 Other). Final costs have not been determined.

Progress in Obtaining Easements and Rights-of-Way. The Conservancy District acquired all necessary easements.

Effectiveness of Project Proved. In June 1973 a storm brought 3 to 5 inches of rain in a short period of time. All 11 structures functioned as planned and effectively protected several thousand acres of corn, beans and small grain from serious flooding. Structure 2C, which controls only about one-half of the drainage area above Pioneer Village (Billie Creek), also protected the village from the extensive damage which would likely have occurred without the dam. The village was also spared two other serious floods: once in late July 1971 when the structure was only partially completed and a 4.5-inch rain fell in about an hour and once in June 1972 when a 2.5-inch rain fell in 30 minutes. The completed measures have effectively protected the valley from serious flooding.

LITTLE WALNUT CREEK PROJECT PUTNAM AND PARKE COUNTIES

The Project in Brief. Authorized - April 1969. Estimated completion - in the fiscal year 1979. Area - 41,225 acres. Sponsors - Putnam County Soil and Water Conservation District and the Little Walnut Creek Conservancy District. Estimated total cost - \$2,020,751 (\$1,170,541 PL-566 and \$850,210 Other). Principal problems - damage from flooding to crops and pastures, roads and bridges, and damage from scour and sediment deposition in the flood plain. Landownership and use - major portion of land is privately-owned and used agriculturally; 50 percent used for cropland, 22 percent for pasture, 25 percent for woodland and 3 percent for other land.

Progress in Land Treatment. Landowners involved - 256 farms wholly or partially within the watershed; 127 of the landowners (involving 27,958 acres) are cooperators with the Putnam County Soil and Water Conservation District and 118 of the landowners have basic conservation plans involving 21,469 acres. An estimated 75 percent of needed land treatment measures have been applied. Planned land treatment includes conservation cropping systems, grassed waterways, ponds, diversions, grade stabilization structures, crop residue use, pasture planting, woodland protection and installation of open and closed drains. Estimated cost of land treatment - \$494,301, of which \$118,670 is for technical assistance and soil surveys.

Progress in Structural Measures. Planned structural measures are two single-purpose floodwater retarding structures and one multiple-purpose flood prevention recreation structure. All structures have been completed. Estimated cost of structural measures - \$1,526,450 (\$1,051,871 PL-566 and \$474,579 Other). Actual cost of project to date has been \$913,627 of PL-566 funds for construction and land rights, and \$679,458 of "Other" funds for construction, land rights and operation of the Conservancy District.

Progress in Obtaining Easements and Rights-of-Way. The Conservancy District was established by Putnam County Circuit Court on March 10, 1967. The Conservancy District Plan was approved by the Indiana Natural Resources Commission. The District has acquired all needed land rights and is currently investigating means to bring about the installation of planned recreation facilities at multiple-purpose structure No. 4. A boat ramp and parking lot have been constructed by the Conservancy District but were not part of the plan.

Effectiveness of Project Proved. Severe rainstorms during 1972, 1973, 1974, 1975, 1976 and during spring of 1978 have severely tested the structures. Structures functioned as planned. Flooding was materially reduced; this significantly reduced damage to crops, county roads and bridges, and farmland.

LOST RIVER PROJECT DUBOIS, LAWRENCE, MARTIN, ORANGE, AND WASHINGTON COUNTIES

The Project in Brief. Authorized - September 29, 1970. Estimated date of completion - undetermined. Area - 233,690 acres - 220,325 acres privately-owned, 12,200 acres federally-owned and managed by U.S. Forest Service, 1,125 acres state-owned and managed by the Indiana Department of Natural Resources. Sponsors - soil and water conservation districts of Dubois, Lawrence, Martin, Orange and Washington Counties, the Orange County Park and Recreation Board and the Town of Paoli. Estimated total cost for structural measures and land treatment - \$9,979,365 (\$4,662,666 PL-566 and \$5,316,699 Other). Principal problems - floodwater and sediment damage to agricultural lands, increased operating costs and disruption of travel because of road and bridge flooding and damage. Land use - 35 percent cropland, 28 percent pasture, 26 percent woodland and 11 percent other uses.

<u>Progress in Land Treatment</u>. There are 1,140 farms in the watershed with 623 district cooperators of which 429 have complete conservation plans. An estimated 64 percent of the planned practices have already been applied.

Progress in Structural Measures. None of the structural measures has been installed. A petition was granted by the Orange County Circuit Court in March 1978 to delete the Lost River Watershed from the Lost River-Springs Valley Conservancy District. This action leaves the watershed without adequate sponsorship for installation of project measures.

LYE CREEK DRAIN PROJECT MONTGOMERY COUNTY

The Project in Brief. Authorized - June 6, 1975. Estimated completion - the fiscal year 1980. Area - 13,035 acres. Sponsors Montgomery County Soil and Water Conservation District and the Montgomery County Drainage Board. Estimated total cost - \$526,540 (\$324,230 PL-566 and \$202,310 Other). Principal problems - inadequate land and water management, floodwater damage, erosion and inadequate drainage. Landownership and use - privately owned; 11,315 acres cropland, 891 acres grassland, 129 acres woodland and 700 acres other land.

Progress in Land Treatment. Landowners involved - 90 farms of which 40 are cooperators with the Montgomery County Soil and Water Conservation District. Of these, 30 have adequate basic conservation plans. Major conservation practices planned are contour farming, grassed waterways, minimum tillage, crop residue use, grade stabilization structures, conservation cropping systems, subsurface drains, drainage mains and laterals, pasture and hayland planting and management, tree planting, and forest land management. Total estimated cost of land treatment - \$34,770, of which \$3,340 is for technical assistance.

Progress in Structural Measures. Planned structural measures are 11.3 miles of multiple-purpose flood prevention and drainage channel work, of which 10.2 miles will include deepening and enlargement and 1.1 miles will include only debris removal. All work will be performed on intermittent, manmade or modified channel. The first unit of work is complete (5 miles of channel deepening). The project agreement for Unit II work was signed September 1, 1978. Construction estimated at \$331,000 is to begin in October or November 1978. Tree planting of about 10 acres on Unit I was completed in May 1978. Tree planting of 6.1 acres on Unit II may be done in April or May 1979 if the fall 1978 construction season is good. The county has installed two new bridges. Estimated cost of structural measures - \$491,770 (\$320,880 PL-566 and \$170,890 Other).

Progress in Obtaining Easements and Rights-of-Way. The original application for the Armentrout Drain Ditch was approved by the Indiana Natural Resources Commission on June 15, 1965. The amended application for Lye Creek Drain was approved by the Commission on March 1, 1971. The Drainage Board has acquired easements and rights-of-way for the second unit of work. The major portion of improvement work will be done within the Board's 75-foot right-of-way established by the Indiana Drainage Code. Additional rights-of-way will be acquired as needed or determined.

MIDDLE FORK OF ANDERSON RIVER PROJECT PERRY AND CRAWFORD COUNTIES

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The Project in Brief. Authorized - August 28, 1961. Estimated completion in the fiscal year 1983. Area - 69,400 acres (55,315 acres privately-owned, 13,117 acres owned by U.S. Forest Service, 968 acres owned by Indiana Department of Natural Resources). Sponsors - soil and water conservation districts of Perry and Crawford Counties and the Middle Fork Watershed Conservancy District. Estimated total cost - \$9,509,809 (\$5,485,194 PL-566 and \$4,024,615 Other). A draft copy of a supplement to the work plan and environmental impact statement has been prepared. Principal problems - floodwater sediment and erosion damage to agricultural lands and indirect damages in form of depreciation in land values, increased operating costs and disruption of travel because of road and bridge flooding and damage. Landownership and use - 90 percent owneroperated; 17,300 acres cropland, 15,604 acres grassland, 31,900 acres woodland. Over 50 percent are part-time farmers.

<u>Progress in Land Treatment</u>. Over 95 percent of the planned land treatment measures are now applied. There are 350 farmers in the area of which 345 are cooperators. Of the estimated 1,000 acres of tree planting needed on the watershed critical areas, 1,461 acres have been planted. Trees were furnished to the landowners through the RC&D Program. Land treatment was given first priority for ACP cost-share assistance. Over \$125,000. has been spent for ACP assistance since the watershed project started.

Progress in Structural Measures. Of the planned 34 miles of channel work, 5 miles of Kraus Creek were completed in 1966. Multiple purpose Lake Celina (155 acres) was completed in 1968. Four other multiple-purpose structures were completed prior to 1968. Recreation facilities have been completed on Saddle Lake by the U.S. Forest Service. Road building and recreation facilities, including beach, have started on Tipsaw. Public access road to Indian Lake and Lake Celina is completed. Campgrounds were opened for use during summer of 1975 on Celina. Boat ramps on Celina and Indian lakes were completed in 1977. The 1.3 miles of channel work on Winding Branch and 5.6 miles of Unit 1 of the Middle Fork main channel are complete.

<u>Progress in Obtaining Easements and Rights-of-Way</u>. The Conservancy District has obtained easements for 29 miles of channel work on Middle Fork, Sulphur and Theis creeks.

Effectiveness of Project Proved. The watershed received heavy steady spring rainfall during the spring of 1973 totaling 22

inches and the structures held back the excessive bottomland flow very successfully. Six to six and one-half inches of rain on April 23-25, 1975, caused both emergency spillways on structures 2 and 4 to flow. Structure No. 7 was within a foot of the lowest spillway. Some flooding occurred but damage was minimal. Construction of Interstate 64 has been completed.

MILL CREEK PROJECT FULTON AND PULASKI COUNTIES

The Project in Brief. Authorized - April 6, 1965. Construction completed in fiscal year 1972. Land treatment measures estimated to be completed in fiscal year 1984. Area - 34,080 acres. Sponsors - Fulton and Pulaski soil and water conservation districts and the Mill Creek Conservancy District. Principal problems - flooding and impaired drainage on 4,530 acres. Landownership and use - 100 percent privately-owned; 28,450 acres cropland, 2,330 acres grassland, 1,700 acres woodland, and 1,600 acres other land. Estimated total cost - \$875,776. (\$404,386 PL-566 and \$471,380 Other).

Progress in Land Treatment. More than 70 percent of the agronomic land treatment practices are applied. Nineteen of the 33 laterals have been reconstructed in such a manner to prevent siltation and pollution by the installation surface inlets, good side slopes, seeding and spoilbank leveling. This represents a total of 40 miles of laterals, 8 culverts and 146 structures. Reconstruction costs of laterals 1976-78 have been \$152,437, paid by the landowners.

Progress in Structural Measures. Construction of structural measures was completed in June of 1971. The Conservancy District requested that work on the laterals included in the original plan as land treatment be changed to structural works of improvement; however, the supplement was not approved for SCS cost sharing. The Conservancy District plans to complete the project without government cost share assistance.

Effectiveness of Project Proved. Benefits are noticeable and have become more evident since 1971 and as additional laterals are completed. When the entire project is completed, benefits in flood prevention will be plainly evident. Even with very wet springs, farmers report they were better able to time and manage their farm operations. The Mill Creek area received 9 1/2 inches of rainfall in the first week of June 1971. Local leaders think the protection afforded to highways, agricultural land and crops prevented a loss equal to a third of the project cost. On June 3, 1972, there was a 100-year rain of 30-minute duration in a small area. This gave the Costello, Hines and W. F. Wilson laterals a real test. Farmers and Conservancy District leaders were well pleased with these laterals and their capabilities. Farming would have been nearly impossible in the fall of 1972 and the spring of 1973 without the work that has been done, as this has been one of the wettest periods in the history of the area.

MUDDY FORK OF SILVER CREEK PROJECT CLARK, FLOYD, AND WASHINGTON COUNTIES

The Project in Brief. Authorized - August 12, 1965. Estimated completion - in the fiscal year 1982. Area - 42,642 acres (86 percent privately-owned, 14 percent state forest). Sponsors - Clark, Floyd and Washington county soil and water conservation districts, Town Board of New Providence, and the Muddy Fork Conservancy District. Estimated total cost - \$2,606,369 (\$1,824,251 PL-566 and \$782,118 Other). Principal problems - floodwater and sediment damage to agricultural lands, residences and utilities. Landownership and use - 60 percent part-time and 25 percent tenant farmers; general farming with emphasis on fruit and vegetable crops and small grain, 7,751 acres cropland, 2,902 acres grassland, 29,595 acres woodland, and 2,394 acres miscellaneous.

Progress in Land Treatment. Of the approximately 400 landowners, 198 are district cooperators (27,095 acres - 64 percent), and 189 have conservation plans (25,364 acres - 60 percent of the area). Over 80 percent of the following land treatment practices have been applied: diversions; terraces; ponds; minimum tillage; surface and subsurface drains; pasture and hayland management; tree planting; and wildlife habitat upland management. There are 20,849 acres which are adequately treated. Estimated cost of land treatment is \$314,980.

Progress in Structural Measures. Structures numbered 1, 2, 3 and 5 are completed and operating. Structure No. 1 is a multipurpose flood and water supply structure. The structure provides water to the town of New Providence and over 800 customers of the Tri-County Water Corporation. The other structures (2, 3 and 5) are flood control only. All structural work has been temporarily halted pending completion of a work plan supplement.

PRAIRIE CREEK PROJECT VIGO COUNTY

The Project in Brief. Authorized - August 19, 1964. Estimated completion - in Fiscal Year 1980. Area - 19,095 acres (99.5 percent privately-owned). Sponsors - Vigo County Soil and Water Conservation District and the Prairie Creek Conservancy District. Total revised cost - \$1,416,342 (\$792,292 PL-566 and \$624,050) Other). Principal problems - floodwater and sediment damage to agricultural land. Landownership and use - 13,260 acres cropland; 2,440 acres grassland; 1,800 acres woodland and 350 acres idle and miscellaneous.

<u>Progress in Land Treatment</u>. Of the approximately 200 farmers in the watershed, 160 have agreements with the Vigo County Soil and Water Conservation District. Of these, 155 have conservation plans. Approximately 90 percent of the major planned land treatment measures have been applied. Estimated cost of land treatment is \$449,840.

<u>Progress in Structural Measures</u>. All three planned floodwater retarding structures have been installed. Structure No. 2 was completed late in 1967; Structure No. 1 was completed in October 1970; and Structure No. 3 was completed in September 1973. Construction of the remaining channel improvement is 50 percent complete.

Effectiveness of Project Proved. Several times during the 1973-74 winter the area received intense rains. Due to channel congestion flooding occurred along the main stem. Floodwaters topped the road at bridges two and three. The flooding of agricultural land was evident during much of February and March. This flooding persisted due to maximum discharge of structures land 2 with inadequate channel capacity downstream. Even though flooding occurred to agricultural grounds, several thousand dollars in benefits were received to county roads and bridges and to landowners as a result of the three floodwater retarding structures. No flooding in the lower portion has been evident during FY 1978.

PRIDES CREEK PROJECT PIKE COUNTY

The Project in Brief. Authorized - October 1966. Estimated completion - in the fiscal year 1979. Area - 9,213 acres (100 percent privately-owned). Sponsors - Pike County Soil and Water Conservation District and Prides Creek Conservancy District. Estimated total cost - \$1,232,400 (\$775,457 PL-566 and \$456,943 Other). Principal problems - floodwater and sediment damage to agricultural land and recreational development. Land use - 61 percent cropland, 10 percent grassland, 8 percent woodland, 10 percent idle land, 6 percent farmsteads and roads, and 5 percent urban.

Progress in Land Treatment. More than 69 percent of the planned land treatment measures have been applied. Of the 92 farmers in the project, 70 are cooperators and 65 have conservation plans. Of the 12,000 feet of diversions needed, 1,500 feet have been constructed. Of the 18,000 feet of field drainage needed, 13,500 feet have been constructed. Estimated total cost of land treatment is \$173,600.

Progress in Structural Measures. Structural measures consist of two floodwater retarding and one multi-purpose recreation structures and 6.2 miles of channel work. Estimated cost of structural measures is \$1,103,000 (\$757,500 PL-566 and \$345,500 Other). The multi-purpose structure and recreation facilities were completed in June 1972. Survey, design and plans have been completed on the two floodwater retarding structures. The Prides Creek Conservancy District is proceeding with plans for snagging and debris removal on about 3 miles of channel from the White River to State Road 57.

Escalating land costs because of coal mining interests have almost made land rights prohibitive. Therefore, no further structural measures can be installed as planned. Procedures are underway to close the project and terminate further PL-566 assistance.

Effectiveness of Project Proved. The land treatment phase has helped in controlling erosion and reducing flooding in the watershed. There is a noticeable difference in flooding below Structure No. 4 to the main channel. Part of this area is now an industrial park. Three industries have started operations in this protected area since Structure No. 4 has been completed.

ROCK CREEK PROJECT CASS AND CARROLL COUNTIES

The Project in Brief. Authorized - July 3, 1967. Estimated completion - in the fiscal year 1979. Area - 56,530 acres, all privately-owned. Sponsors - soil and water conservation districts of Cass and Carroll Counties, and the Rock Creek Cass-Carroll Conservancy District. Estimated total cost - \$1,818,295 (\$1,251,245 PL-566 and \$567,050 Other). Principal problems - floodwater and drainage damage to agricultural land. Landowner-ship and use - 17 percent tenant-operated; 46,500 acres cropland, 3,200 acres grassland, 2,500 acres woodland, and 4,330 acres in other land.

Progress in Land Treatment. Landowners involved - 157 farmers in an area of 15,740 acres in need of conservation planning. Of these, 63 are cooperators on 7,947 acres; 57 have resource conservation plans on 7,434 acres. Class II-W land occupies approximately 40,000 acres, mostly in Cass County. This area of level to depressional soils does not generally need conservation planning at this time. The application of group land treatment work has been dependent on securing the adequate drainage outlet which is being provided by the main channel reconstruction. Estimated cost of land treatment is \$423,985.

Progress in Structural Measures. Construction on Unit I, approximately 1.2 miles of channel work, was completed May 13, 1971. Construction on Reach "M" which includes 2.4 miles of clearing, snagging and minor channel realignment was begun in 1973 and was completed in 1974. This reach is immediately downstream from the PL-566 project and was paid for 100 percent by conservancy district funds. Bid was let for constructing Unit II (15.2 miles of channel improvement) in December 1977 for \$1,085,037. This last unit of work is planned for completion in the fall of 1979 and work is proceeding on schedule.

Progress in Obtaining Easements and Rights-of-Way. All easements have been obtained.

ROCK CREEK PROJECT WELLS AND HUNTINGTON COUNTIES

The Project in Brief. Authorized March 16, 1967. Construction of planned structural measures completed September 1975. duced flooding immediately downstream from the completed works of improvement resulted in the planning of a 1,100 foot levee to supplement this project. The levee was completed in the spring of 1978 at a cost of \$9,269. Area - 61,020 acres - all privately Sponsors - soil and water conservation districts of Huntington and Wells Counties, county commissioners and the Rock Creek Conservancy District. A supplement was completed in 1972 to modify the original work plan to reduce adverse environmental effects of the project as found during the project review. Principal problems - floodwater damage and impaired drainage of agricultural lands. Land use - 52,943 acres of cropland, 1,365 acres of grassland, 3,439 acres of woodland, and 3,273 acres of wildlife and miscellaneous land. Revised estimated total cost -\$2,906,390 (\$1,871,200 PL-566 and \$1,035,190 Other). Actual contract construction costs were \$1,889,160 (\$1,701,689 PL-566 and \$187,481 Other). Major works of improvement include 24.1 miles of channel work on the Rock Creek and Whitelock Drains and 2.5 miles of debris removal on the Mossberg Drain. mental additions to reduce the adverse environmental effects include 14.7 miles of one-sided channel construction, fish pools throughout most of the length of Rock Creek Main Channel and replanting approximately 50 acres of trees and shrubs adjacent to the berm.

Progress in Land Treatment. Practically all the erosion control measures planned have been applied. Tile and open drainage with complementary grade stabilization structures remain to be installed as landowners' finances permit. Of the 580 farms in the watershed, 430 are district cooperators with 286 having resource conservation plans. Land treatment measures completed are determined to be adequate for project purposes. It is estimated that the cost of land treatment measures installed to date exceeds \$1 million.

Progress in Obtaining Easements and Rights of Way. All needed easements and rights-of-way were obtained through the local court for the entire project at a local cost of \$91,327. Courtappointed appraisers determined the value of the needed easements and rights of way.

Effectiveness of Project Proved. The largest storm runoff in eight years occurred during the period of February 16-20, 1976. The works of improvement performed as planned with little flood

damage to the channel and very minor short duration flooding to bottomlands. No roads were flooded as would have occurred with the preconstruction conditions.

The record snowfall and harsh winter of 1977-78 caused damage to the open drain side slopes throughout the length of the main channel. No flooding occurred during the spring thaw. Accumulating weight of snow turning to ice during the thaw sheared the side slopes at many locations. Some repairs to the side slopes will be necessary. Natural revegetation at most of the locations is expected to heal the scars.

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STUCKER FORK PROJECT SCOTT, JEFFERSON, CLARK, AND WASHINGTON COUNTIES

The Project in Brief. Authorized - September 28, 1962. Estimated completion in the fiscal year 1984. Area - 117,850 acres (96 percent privately-owned, 4 percent State Forest). Sponsors - Scott, Clark, Jefferson and Washington County soil and water conservation districts, Stucker Fork Conservancy District, Scott County Park and Recreation Board and the State of Indiana, Division of Forestry. Estimated total cost \$6,987,135 (\$2,999,064 PL-566 and \$3,988,071 Other. Landownership and use - more than 90 percent of the farms are owner-operated; 55,793 acres of cropland, 15,294 acres of permanent pasture, 34,000 acres of woodland and 12,763 acres of idle and miscellaneous.

Progress in Land Treatment. Approximately two-thirds of the land treatment has been accomplished in the watershed area. About 85 percent of the farm area is under basic conservation plan. The area above all structures is about 65 percent district cooperators who are actively applying conservation measures to their land. Estimated cost of land treatment is \$3,395,778.

<u>Progress in Structural Measures</u>. Fifteen structures are complete and 3.3 miles of channel work have been done.

Progress in Obtaining Easements and Rights-of-Way. The project plan is being amended to include 16 small structures instead of the remaining 1 large structure and the remaining 22.1 miles of channel work. This amendment process should be completed in FY 1979. Easements will be donated for the first unit of work consisting of 4 structures. Land rights maps will have to be prepared before securing other easements.

Effectiveness of Project Proved. Project has proven effective in reducing flooding below structures. Heavy snow melt in March along with excessive rain caused some flooding of low lying areas. The flooding was largely due to ice jams in the streams.

TWIN-RUSH PROJECT WASHINGTON COUNTY

The Project in Brief. Authorized - April 29, 1965. Estimated completion - in the fiscal year 1980. Area - 28,099 acres (99 percent privately-owned). Sponsors - Washington County Soil and Water Conservation District, the Twin-Rush Conservancy District and the city of Salem. Estimated total cost - \$3,353,058 (\$1,694,823 PL-566 and \$1,658,235 Other). Principal problems - floodwater damage and land scour to agricultural lands and roads. Also, inadequate water supply for future growth of Salem. Landownership and use - 5 percent tenant operated; 6,759 acres of cropland; 4,967 acres of grassland; 13,800 acres of woodland and 2,573 acres miscellansous.

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Progress in Land Treatment. Of the 267 farms in the project, 137 are district cooperators (21,978 acres) and 131 have basic plans (17,412 acres). The major conservation practices needed are diversions; grassed waterways; grade stabilization structures; livestock exclusion and pasture planting.

<u>Progress in Structural Measures</u>. Two of the three planned floodwater retarding structures have been completed. Structure No. 2 is a 220-acre lake furnishing water supply to the city of Salem and No. 3 is a single purpose structure. Incidental recreation will also be provided by the city of Salem. Construction started on No. 1 in August 1978.

Progress in Obtaining Easements and Rights-of-Way. The Conservancy District has land rights on Structure No. 1.

Effectiveness of Project Proved. Structures numbered 2 and 3 continue to keep channels below them well within their banks. However to the immediate west of Structure No. 3 where No. 1 is planned, the valley continues to be flooded by the overtopping of streams. Again frequent flooding this past spring has caused farmers in the area to recognize the urgency of getting this structure in place.

UPPER BIG BLUE RIVER PROJECT HENRY AND RUSH COUNTIES

The Project in Brief. Authorized - August 1966. Estimated completion - in the fiscal year 1983. Area - 124,000 acres (98 percent privately-owned, state-ownership - 1,526 acres or 1.2 percent, and county-ownership - 371 acres). Sponsorship - soil and water conservation districts of Henry and Rush Counties and the Biq Blue River Conservancy District. Estimated total cost - \$19,956,580 (\$8,505,570 PL-566 and \$11,451,010 Other). Principal problems - flooding, impaired drainage, stream pollution, lack of recreational facilities, swamping of agricultural land, and need for future municipal and industrial water supply. Landownership and use - 79 percent owner-operated; 84,128 acres cropland, 19,334 acres grassland, and 9,415 acres woodland.

Progress in Land Treatment. Of the 746 farms in the watershed, 572 are cooperators with the Henry and Rush county soil and water conservation districts. The total land acreage under cooperator agreement is 61,800 acres of which 19,200 acres have had complete conservation treatment applied to the land. There have been 450 conservation plans prepared within the watershed and 33 percent of the planned land treatment measures have been applied to the land. The U.S. Forest Service has marked 620 acres of woodland for harvest and tree planting has taken place on 250 acres within the project area. The soil survey work is 100 percent complete and the estimated cost of land treatment is \$5,232,700.

Progress in Structural Measures. Five floodwater retarding structures have been completed at a PL-566 cost of \$838,800. One multi-purpose recreation, flood control, and water supply structure has been completed at a PL-566 cost of \$208,015. One public recreation facility has been completed at a PL-566 cost of \$98,895; 7.5 miles of stream channel improvement have been completed at a PL-566 cost of \$69,700; 2.5 miles of stream channel work have been completed by the Conservancy District without PL-566 funds. An A&E contract for the design of basic recreation facilities has been completed at a PL-566 cost of \$7,000. An A&E contract for the topographic mapping of one multi-purpose recreation, flood control, and water supply structure and two multipurpose low flow augmentation flood control structures has been completed at a PL-566 cost of \$16,000. An A&E contract for the design of a multi-purpose recreation, flood control and water supply structure has been completed at a PL-566 cost of \$161,700. A contract to construct one multi-purpose recreation, flood control and water supply structure has been let. The estimated PL-566 cost is \$1,370,700. Fencing of a multi-purpose structure has been completed at a PL-566 cost of \$7,950.

Progress in Obtaining Easements and Rights-of-Way. The Conservancy District has expended approximately \$372,000 for the land rights for five floodwater retarding structures and the stream channel work that has been completed. Purchase of approximately 550 acres for a multi-purpose recreation, flood control, and water supply structure has been completed at a total cost of \$210,200. The PL-566 cost-share was \$62,400. Purchase of approximately 2,600 acres for a multi-purpose recreation, flood control and water supply structure has been completed or is being litigated at a total cost of approximately \$1,514,550. The PL-566 cost-share is \$497,000. To date, \$72,848 has been paid in relocation costs. The PL-566 cost share is \$29,139.

Effectiveness of Project Proved. Five floodwater retarding structures are complete and functioning as intended. Observation of peak flows downstream of the structures indicates that the planned level of protection is being attained. The stream channel work completed shows significant benefits in drainage of land adjacent to the channels, reduction in the frequency of flooding, and improvement of the fishery habitat as evidenced by an increase in the number of species identified after project installation. The general public is making high use of the basic recreation facilities.

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WEST BOGGS CREEK PROJECT DAVIESS AND MARTIN COUNTIES

The Project in Brief. Authorized - October 18, 1966. Estimated completion in the fiscal year 1979. Area - 14,121 acres (100 percent privately-owned with the exception of 1,215 acres owned by the joint park board). Sponsors - Daviess and Martin Park and Recreation Board, and the West Boggs Creek Ditch Repair and Maintenance District. Estimated cost - \$1,780,214 (\$629,193 PL-566 and \$1,151,021 Other). Principal problems - floodwater and sediment damage to agricultural crops and land, and need for a recreational development. Landownership and use - approximately 180 farms in the watershed, 65 percent of farmers have off-farm income; 7,200 acres of cropland, 2,540 acres of grassland, 3,390 acres of woodland, and 990 acres of miscellaneous and idle land.

Progress in Land Treatment. Of the 140 potential cooperators in the watershed, 116 are cooperators and 82 have conservation plans developed. Estimated land treatment costs are \$629,193, of which \$40,493 is for technical assistance. Additional REAP funds were allocated to assist with practice application acceleration. Practices which are being stressed by resource conservation planning are parallel tile outlet terraces, diversions, grassed waterways, tree planting, minimum tillage, wildlife habitat management and pasture management.

Progress in Structural Measures. Construction is complete on the multi-purpose structure for the 622-acre lake. The county roads have been raised in five locations where the road elevations were below the level of the lake. The recreational facilities in the 250-acre park are a joint venture of the Indiana Department of Natural Resources, Bureau of Outdoor Recreation and the Daviess and Martin County Park and Recreation Board. Construction is complete for phase "A" of the park, the campgrounds, picnic areas, outdoor sports areas and shelterhouses. A contract has been awarded to construct a 9-hole golf course, restaurant and health center. An erosion problem adjacent to the emergency spillway was solved by constructing erosion control structures, a diversion and installing tile. This work was completed in the fall of 1974.

The sponsors have determined that the remaining works of improvement, 4.6 miles of channel work, are not needed. Procedures are underway to close project and terminate further PL-566 assistance.

Effectiveness of Project Proved. In July 1973, a 7-inch rain during a 48-hour period created severe flooding in areas adjoin-

ing the watershed which were not protected by flood control measures. Little or no flooding occurred below the multi-purpose structure. Many farmers said they would have lost their entire crop on the bottomland if this structure had not been constructed. The 250-acre park and recreation area has been used extensively. In fact, income from the facilities paid first-year operating expenses. In 1976 an estimated 255,000 visitor days were spent in the park. The park has established the reputation as one of the cleanest in the country. The joint park board has received a \$540,800 grant from EDA for the construction of a golf course, health and exercise center and restaurant at the park. Total price of this project should be about \$676,000. The lake has been stocked with bass, redear, channel catfish and bluegill. Fishing is excellent. During fall migration, the lake was open for duck hunting. This has brought increased income to the community. Several new businesses have been started such as restaurants, hotels, a grocery store, roadside market, bait and boat shops, service stations, etc. Several of the older establishments and businesses have been remodeled and expanded to accommodate growing demand. Three subdivisions have been developed along with a mobile home park and private camping facilities. Local community leaders are very pleased with the success of the project to date.

EAST FORK OF WHITEWATER RIVER PROJECT WAYNE, UNION, FAYETTE, RANDOLPH, AND FRANKLIN COUNTIES, INDIANA and DARKE AND PREBLE COUNTIES, OHIO

The Project in Brief. Authorized - October 1974. Estimated completion - in the fiscal year 1980. Area - 246,900 acres. Sponsors - Indiana - soil and water conservation districts of Wayne, Union, Randolph, Fayette and Franklin Counties; Ohio - soil and water conservation districts of Darke and Preble Counties, the Jefferson Township Park Board and the Darke and Preble County Commissioners. Estimated total project cost - \$10,493,987 (\$3,211,428 PL-566 and \$7,282,559 Other). Principal problems - lack of recreational opportunities in the area; need for additional municipal and industrial water supply; floodwater damage to crops, pasture, agricultural properties, roads and bridges; erosion and/or sediment damage to flood plains, channels, roads, bridges and existing reservoirs; floodwater and impaired drainage conditions on about 600 acres in upstream channel areas; and deterioration of the quality of the environment.

Progress in Land Treatment. There are about 1,216 farms in the watershed. In Indiana, approximately 55 percent of these farms are under cooperative agreement with the local soil and water conservation districts. Of these, 30 percent have basic plans and 51 percent of the land is adequately treated. Soil survey mapping has been done on about 40,000 acres in the Indiana portion of the watershed this year. In the Ohio portion, of the 454 farms in the project area 172 are under cooperative agreement and 126 have conservation plans. Forty percent of the land is adequately protected.

Progress in Structural Measures. The planned structural measures include I floodwater retarding structure, 3 multiple-purpose floodwater retarding-recreation structures with public recreation facilities, 2 multiple-purpose floodwater retarding-water supply structures, I channel recreation development, and 19.6 miles of multiple-purpose flood prevention and drainage channel work.

None of the planned structural measures has been installed in Indiana. The Whitewater Valley Conservancy District, viable sponsor for the Indiana portion of the project, was dissolved by election in accordance with the 1977 amendment to the Indiana Conservancy Act (Senate Bill 490).

Of the planned structural measures in Ohio, 4.4 miles of the Upper East Fork channel have been completed. The PL-566 cost of structural measures is estimated to be \$559,187. However, geological investigations have shown the reservoir site to be questionable.



RIVER BASIN STUDIES

River basin studies by the United States Department of Agriculture (USDA) are carried out under the authority of Section 6 of the Watershed Protection and Flood Prevention Act (PL-566, 83rd Congress, as amended). Currently, in Indiana, framework studies on the Ohio River Basin, Upper Mississippi River Basin, and the Great Lakes Basin have been completed. A Type II Comprehensive Study has been completed for the Wabash River Basin, a coperative survey (Type IV) has been completed on the Elkhart and the Kankakee river basins, and a Level B Comprehensive Study has been completed on the Maumee River Basin and the Ohio River Main Stem.

The principal participants for the USDA in these studies are the Soil Conservation Service (SCS), Forest Service (FS), and the Economics, Statistics, Cooperatives, Service (ESCS). Further information regarding the various river basin studies in Indiana can be obtained from Mr. Buell M. Ferguson, State Conservationist, Soil Conservation Service, 5610 Crawfordsville Road, Suite 2200, Indianapolis, Indiana 46224

Ohio Main Stem (Level B)

The study was begun in 1976 and completed October 1978. The state conservationist for Indiana was assigned responsibility for the USDA technical participation in the study.

The USDA primary responsibilities include an appraisal of flooding, analysis of nonpoint source erosion and estimates of control measures and cost, and an analysis of current and projected agricultural and forest land use.

The major issue concerning the Ohio River is whether the river can continue to serve as a source of water supply through the year 2000 and beyond or whether the increases in consumptive use of water, predominantly cooling water for new plants and plants that convert coal to oil and gas, will grow so large as to significantly reduce the quantity of water available to adequately meet other competing demands. Comparison of projected demands with augmented 7-day/10-year low flows indicated that there is ample water available. Detailed studies were made to determine if the reduction in low flows would cause a water quality problem. Although a measurable effect was determined, it was too small to create a problem.

Elkhart River Basin

The Elkhart River Basin is a tributary of the St. Joseph River and part of the Great Lakes Basin. The Elkhart River Basin is located in northcentral Indiana and has a total drainage area of

710 square miles. The Elkhart River originates in the north-eastern part of DeKalb County, flows westward across Noble County into Elkhart County, then northeasterly to the city of Elkhart where it enters the St. Joseph River. The Elkhart River Basin includes parts of five Indiana counties - DeKalb, Noble, LaGrange, Kosciusko and Elkhart.

The Elkhart River Basin Study was requested by the Indiana Department of Natural Resources in May 1969 after having received letters of support for such a study. These letters were from local officials in the four counties involved. In June 1969, the Soil Conservation Service requested authority for the USDA to participate in the study. The request was supported by U.S. Congressmen representing the area. In July 1970, the Elkhart River Basin Study was authorized for cooperative federal/state technical assistance to the basin residents, due to a keen interest of local and state authorities in consolidating planning efforts to analyze the water and land related resources of the area. The study provides physical and economic information about the basin (including problems and needs), identification of alternative projects and programs to meet those needs, evaluation of alternatives, and the application of multiple-objective planning within the limitations of the data available.

The report was not intended to be an all-encompassing problemsolving effort. Rather, to the extent that data were available, alternative actions were provided to help meet major problems which require cooperative effort among local, state and/or federal agencies and the basin residents. The alternatives show ways in which requirements for water and land-related goods and services could be provided, as well as meeting specific demands for satisfying environmental quality considerations. Recommendations for development were included to show how different actions for different purposes could be compatible. However, each recommended action can be implemented independently without jeopardizing the feasibility or practicality of other actions.

The report was completed - August 1976.

Wabash River Basin Comprehensive Study

The Wabash River Basin is located between Lake Michigan and the Ohio River in the northwestern portion of the Ohio River Basin. The basin includes a total of 33,100 square miles or about 21 million acres in the three states of Illinois, Indiana and Ohio. About 8,563 square miles are in Illinois, 24,218 in Indiana and 319 in Ohio.

The Congress of the United States directed a comprehensive study of the region by responsible federal agencies in cooperation with state and local governments. The study was begun in

1962 with USDA participation beginning in 1963. The state conservationist of Indiana was designated USDA representative on the Wabash study coordinating committee. The plan, completed in 1971, provides for the conservation, development and utilization of water and related land resources to meet immediate needs and projected requirements for the next 50 years.

The USDA responsibilities included the determination of future agricultural land and water needs, and an appraisal of the floodwater problems and needed upstream developments. In the course of the study, over 540 hydrologic units (small watershed areas) were examined with 180 selected for further detailed study and analysis. Over 1,300 dam sites were reviewed and this information is included in the final report. There are 287 structures planned as part of the "early action" projects.

The final USDA report on the Wabash River Basin describes the present and future agricultural needs for land, land treatment and management. Special emphasis is placed on their relation to water resources and the present and future needs for project-type developments. It includes discussions of the present and projected agricultural economy of the basin, the needs and potential for water and related land resource development, opportunities for development in the near and projected future, and the impact of USDA programs.

The Ohio River Basin Commission (ORBC) has integrated the study into their Comprehensive Coordinated Joint Plan (CCJP) baseline and priorities report.

Ohio River Basin - Framework Study

The Ohio River Basin study area is bounded on the north by the Great Lakes drainage area, on the east by the divide of the Appalachian Mountains, on the south by the Tennessee River Basin, and on the west by the Mississippi River drainage area. It includes all or part of the states of Illinois, Indiana, Ohio, Kentucky, West Virginia, Pennsylvania, New York, Maryland, Virginia, North Carolina and Tennessee. The basin area under study includes 163,000 square miles, omitting only the Tennessee River Subbasin area.

Congress authorized the framework study of the Ohio River Basin in 1962 and USDA activities began in 1964. The state conservationist for Indiana was designated by the Secretary of Agriculture as the Department's representative on the coordinating committee. The agricultural report was completed and printed in 1966.

The objective of this survey was to provide a broad guide for the best uses of water and related land resources. The USDA had primary responsibility to determine land and water needs for agriculture and the water problems in upstream areas. This also included the appraisal of potential project development in these upstream regions.

For Indiana, this involved the summarization of Wabash River Basin data and the analysis of water problems and needs in the Whitewater River area. The Ohio River drainage was also considered, including Pigeon Creek, Anderson River, Indian Creek and Silver Creek. Similar studies were carried out in the 11 states within or partly within the Ohio Basin.

The Ohio River Basin Commission has integrated the study into their CCJP baseline and priorities report.

Upper Mississippi River Basin - Framework Study

The Upper Mississippi River Basin study area is located in the northcentral United States. It is bounded on the north by the Hudson Bay drainage area; on the northeast by the Great Lakes Basin drainage area; on the southeast by the Ohio River Basin; on the south by the Arkansas, White and Red rivers; and on the west by the Missouri River drainage area. It includes 189,037 square miles in the states of Illinois, Indiana, Wisconsin, Michigan, Minnesota, South Dakota, Iowa and Missouri.

The state conservationist of Iowa was designated as the USDA representative on the coordinating committee.

The Upper Mississippi River Basin Survey and Report was completed in 1972. The Upper Mississippi River Basin Commission was established in 1972 to coordinate and develop plans for water and related land resource development within the basin.

<u> Great Lakes Basin - Framework Study</u>

The Great Lakes Basin Study includes all of the area in the United States that drains into the Great Lakes and those streams entering the St. Lawrence River within the United States. It includes about 129,000 square miles of which about 68,000 are land area and about 61,000 are water area. The land areas of the basin are in the states of Minnesota, Wisconsin, Illinois, Michigan, Indiana, Ohio, Pennsylvania and New York.

In 1966, the President of the United States established the Great Lakes Basin Commission upon request of the majority of the states involved. The Commission includes representatives

of the eight states and the federal departments having major responsibilities in the development of land and water resources in the basin. The state conservationist of Michigan was designated as the USDA representative on the Commission.

The Great Lakes Basin Commission initiated a framework survey of the basin in fiscal year 1968. This survey was similar in purpose and scope to that described for the Ohio River Basin. The study was coordinated by the commission and the report was completed in 1974.

The study involves Indiana since a large part of the Maumee River Basin is in northeastern Indiana, the St. Joseph River is in northern Indiana, and the Calumet River is in northwestern Indiana. Agricultural data have been evaluated and tabulated by counties and published by Conservation Needs Inventory. The latest publication for Indiana is dated 1968. These data are the basis for analysis of problems and needs and for recommended solutions.

Maumee River Basin

The Maumee River Basin is located in northeastern Indiana, northwestern Ohio and southeastern Michigan, with the major cities of Fort Wayne, Indiana, and Toledo, Ohio. This basin is part of the Great Lakes Basin Framework Study.

The Maumee study is the first Level B study in the nation authorized under Section 209 of Public Law 92-500. The study was begun in 1973 and was completed in 1978. The state conservationist of Ohio has been assigned responsibility for the USDA technical participation in the study.

The USDA primary responsibilities include an appraisal of flooding, erosion and sedimentation, the agricultural reference, and land use and management with some input into other references.

Kankakee River Basin

The Kankakee River Basin is a part of the eastern portion of the Upper Mississippi River Basin and is a tributary of the Illinois River.

The Kankakee River Basin is located in northwestern Indiana and northeastern Illinois and has a total drainage area of 5,280 square miles. Of this, 2,155 square miles are in Illinois and 3,125 square miles are in Indiana. The Indiana portion is comprised of 2,190 square miles which drain directly into the Kankakee River and 935 square miles which are part of the Iroquois River drainage system. The Iroquois River

lies to the south of the Kankakee River and joins the Kankakee about 5 miles upstream from Kankakee, Illinois. The other major tributary is the Yellow River which comprises 427 square miles entirely in Indiana.

The Department of Natural Resources, State of Indiana (IDNR), requested the USDA to participate in a river basin investigation and survey of the Kankakee River Basin, Indiana, in December 1968. The Kankakee River Basin Study was authorized in July 1970 for cooperative federal-state technical assistance to the basin residents because of a keen interest of local and state authorities in consolidating planning efforts to analyze the water and land related resources of the area. The study provides physical and economic information about the basin including problems and needs, identification of alternative projects and programs to meet those needs, evaluation of alternatives, and the application of multiple-objective planning within the limitations of the data available.

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To assure compatibility with objectives of citizens within the basin, the Citizens' Advisory Group, representing local individuals, organizations and units of government, was organized as part of the study structure. The Citizens' Advisory Group participated in nine public meetings within the basin. These meetings provided opportunities for the citizens to express opinions or ideas and provide information about resource problems and needs.

The report was not intended to be an all-encompassing problem-solving effort. Rather, to the extent that data were available, alternative actions were provided to help meet major problems which require cooperative efforts among local, state, and/or federal agencies and the basin residents. The alternatives show ways in which requirements for water and land-related goods and services could be provided, as well as meeting specific demands for satisfying environmental quality considerations. The report was completed in November 1976.

The 100th Indiana General Assembly passed House Enrollment Act No. 1041 which established the Kankakee River Basin Commission. This commission is charged with the planning, coordination and development of activities within the Kankakee River Basin.

WATERSHED CONSTRUCTION

Units of Contract Work to be Awarded During the Period October 1, 1978 to September 30, 1979

Congressional District	Watershed and (County) Location Measure		Contract Dollars (PL-566)	
7th	Lye Creek Drain (Montgomery)	Unit 2 - Channel Work	\$	215,000
	Jordan Creek (Warren)	Unit 2 - Channel Work & Lateral Improvements	\$	300,000
		Subtotal	\$	515,000
9th	Delaney Creek (Washington)	Strs. 10, 11, 12, 13 & 14 Strs. 15 & 16	\$	477,000 212,000
		Subtotal	\$	689,000
	PL-566 Construction Cost	TOTAL	\$ 1	1,204,000
	PL-566 Installation Services for Land Treatment and Structural Measures (Est. for FY-1979)		\$	94,000

CURRENT AND PROJECTED STATUS OF WATERSHED OPERATIONS

5th Congressional District

Rock Creek-Cass - Channel Work - In progress. Expected completion date - August 1979.

7th Congressional District

- Bachelor Run Channel Work Contract awarded. Expected completion date September 1979.
- Lye Creek Drain Unit 2 Channel Work Construction expected to start December 1978.
- <u>Jordan Creek</u> Unit 2 Channel Work and Lateral Improvements Construction expected to start May 1979.
- Prairie Creek (Vigo) Channel Work In progress. Expected completion date June 1979.

9th Congressional District

- <u>Delaney Creek</u> Structure 5 Recreation Facilities In progress. Expected completion date July 1979. Structures 10, 11, 12, 13 & 14 Construction expected to start May 1979.
- Twin-Rush Creek Structure 1 In progress. Expected completion date October 1979.

10th Congressional District

Upper Big Blue River - Structure 20 - In progress. Expected completion date - August 1979.

SPONSORING LOCAL ORGANIZATIONS

ANDERSON RIVER WATERSHED

Joe Jasper, Chairman Anderson River Conservancy District Siberia, IN 47582

Perry County Park and Recreation Board

Town of Birdseye

Indiana Department of Natural Resources (Forestry Division)

Soil and Water Conservation Districts of Dubois, Perry, Crawford and Spencer Counties

BACHELOR RUN WATERSHED

Milton D. Bowman, Chairman Bachelor Run Conservancy District R. R. #3 Delphi, IN 46923

Carroll County Soil and Water Conservation District

BAILEY-COX-NEWTSON WATERSHED

Homer C. Swanson, Chairman
Bailey-Cox-Newtson Conservancy
District
R. R. #4, Box 241
Knox, IN 46534

Starke County Soil and Water Conservation District

BUSSERON WATERSHED

Harold Dodd, Chairman
Busseron Conservancy District
Court House
Sullivan, IN 47882

Sullivan Park and Recreation Board

Indiana Department of Natural Resources

Soil and Water Conservation Districts of Clay, Greene, Sullivan and Vigo Counties

DELANEY CREEK WATERSHED

Ralph Dickmeyer, Chairman Delaney Creek Conservancy District 202 N. Mill Street Salem, IN 47167

Washington County Park and Recreation Board

Indiana Department of Natural Resources (Forestry Division)

Washington County Soil and Water Conservation District

FALL CREEK WATERSHED

Phil Fisher, President
Williamsport Board of Parks
and Recreation
100 North Monroe Street
Williamsport, IN 47993

Williamsport Town Board

Warren County Soil and Water Conservation District

HALL-FLAT CREEK WATERSHED

Raymond Schnaus, Chairman
Hall-Flat Creek Conservancy
District
R. R. #1
St. Anthony, IN 47575

Dubois County Soil and Water Conservation District

JORDAN CREEK WATERSHED

William Davis, Chairman Jordan Creek Conservancy District Pence, IN 47973

Warren County Soil and Water Conservation District

LITTLE RACCOON CREEK WATERSHED

Norval Dixon, Jr., Chairman Little Raccoon Conservancy District 702 W. Ohio Street Rockville, IN 47872

LITTLE RACCOON CREEK WATERSHED Cont'd.

Soil and Water Conservation Districts of Parke, Putnam and Montgomery Counties

William Wright, Chairman Little Walnut Creek Conservancy District

R. R. #4 Greencastle, IN 46135

Putnam County Soil and Water Conservation District

LYE CREEK DRAIN WATERSHED

Samuel R. Boots, Chairman Montgomery County Drainage Board Courthouse Crawfordsville, IN 47993

Montgomery County Soil and Water Conservation District

MIDDLE FORK OF ANDERSON RIVER WATERSHED

Karl Gayer, Chairman Middle Fork Watershed Conservancy District P.O. Box 248 Cannelton, IN 47520

Soil and Water Conservation Districts of Perry and Crawford Counties

MILL CREEK-FULTON WATERSHED

Loren Cunningham, Chairman Mill Creek Conservancy District R. R. #1 Kewanna, IN 46939

Soil and Water Conservation Districts of Fulton and Pulaski Counties

MUDDY FORK OF SILVER CREEK WATERSHED

John E. Dreyer, Chairman Muddy Fork Conservancy District c/o Borden Museum Borden, IN 47106

MUDDY FORK OF SILVER CREEK WATERSHED - Cont'd. Town Board of New Providence

Soil and Water Conservation Districts of Clark, Floyd and Washington Counties

PRAIRIE CREEK (VIGO) WATERSHED

Lloyd Deutsch, Chairman Prairie Creek-Vigo Conservancy District Southland Box 2038 Terre Haute, IN 47802

Vigo County Soil and Water Conservation District

PRIDES CREEK WATERSHED

Denver Gladish, Chairman Prides Creek Conservancy District R. R. #2 Petersburg, IN 47567

Pike County Soil and Water Conservation District

ROCK CREEK (CASS) WATERSHED

Carl B. Jones, Chairman Rock Creek Cass-Carroll Conservancy District 425 W. Northern Avenue Logansport, IN 46947

Soil and Water Conservation Districts of Cass and Carroll Counties

STUCKER FORK WATERSHED

John Sommerville, Chairman Stucker Fork Conservancy District 440 Gardner Scottsburg, IN 47170

TWIN-RUSH CREEK WATERSHED

Malcolm Starr, Chairman
Twin-Rush Creek Conservancy
District
R. R. #1
Campbellsburg, IN 47108

City of Salem

Washington County Soil and Water Conservation District

UPPER BIG BLUE RIVER WATERSHED

George Denton, Chairman
Big Blue River Conservancy
District
1224 1/2 Broad Street
New Castle, IN 47362

Soil and Water Conservation Districts of Henry and Rush Counties

WEST BOGGS CREEK WATERSHED

Wayne Walton, Chairman
West Boggs Creek Ditch Repair
and Maintenance District
R. R. #3
Loogootee, IN 47553

Daviess-Martin Park and Recreation Board

Soil and Water Conservation Districts of Daviess and Martin Counties

EAST FORK OF WHITEWATER RIVER WATERSHED

Soil and Water Conservation
Districts of Darke and Preble
Counties, Ohio

Jefferson Township Park Board, Ohio

